CITY OF LONG BEACH
HOUSING TRUST FUND STUDY

PART III
INCLUSIONARY HOUSING ECONOMIC ANALYSIS

Prepared for:

Ms. Elizabeth B. Stochl
Manager
City of Long Beach
Department of Community Development
Housing Services Bureau
110 Pine Avenue
Suite 1200
Long Beach, CA 90802

Prepared by:

David Paul Rosen & Associates

1330 Broadway, Suite 937
Oakland, CA 94612-2509
510.451.2552
draoakland@sbcglobal.net

3941 Hendrix Street
Irvine, CA 92614-6637
949.559.5650
nlakebrown@cox.net

June 13, 2003

Table of Contents

City of Long Beach
Inclusionary Housing Study

PAGE

Executive Summary

A. Background 1

B. Methodology and Data Sources 1

C. Baseline Development Costs of Housing Prototypes 2

1. Housing Prototypes 2
2. Prototypical Development Costs 3

D. Estimated Costs of Alternative Affordability Standards 13

E. Estimated Value of Economic Incentives 20

F. Comparison of Affordability Costs and Cost-Savings from Incentives 23

G. Comparison of Affordability Costs and Cost-Savings from Alternative Compliance Measures 30

H. Economic Impact of Alternative Inclusionary Standards 45

Appendices

Appendix A: Costs of Alternative Affordability Requirements
Appendix B: Evaluation of Potential Economic Incentives
Appendix C: Prototype Density Bonus Feasibility Evaluation
Appendix D: Assessment of Economic Impacts of Affordability Requirements

List of Tables
City of Long Beach
Inclusionary Housing Study

TABLE	TITLE	PAGE
1	Renter Housing Prototype Projects	4
2	Owner Housing Prototype Projects	5
3	Per Square Foot Hard Construction Cost Assumptions	6
4	Residential Development Impact Fees	7
5	Estimated Prototype Development Costs, Renter Housing Prototypes	9
6	Estimated Prototype Development Costs, Owner Housing Prototypes	11
7	Affordability Standard Alternatives	14
8	Affordable Monthly Housing Expense	16
9	Affordability Gap on Inclusionary Units, Rental Housing Prototypes	17
10	Affordability Gap on Inclusionary Units, Owner Housing Prototypes	19
11	Total Economic Value of Incentives, Excluding Density Bonus, Renter Housing Prototypes	24
12	Total Economic Value of Incentives, Excluding Density Bonus, Owner Housing Prototypes	25
13	Total Cost Savings from Incentives, with Density Bonus, Renter Housing Prototypes	26

List of Tables (Continued)
City of Long Beach
Inclusionary Housing Study

TABLE	TITLE	PAGE
14	Total Cost Savings from Incentives, with Density Bonus, Owner Housing Prototypes	27
15	Comparison of Affordability Costs and Cost Savings from Incentives, with Density Bonus, Renter Housing Prototypes	28
16	Comparison of Affordability Costs and Cost Savings from Incentives, with Density Bonus, Owner Housing Prototypes	29
17	Cost Savings, Alternative Product Type	31
18	Cost Savings, Offsite New Construction, Rental Prototypes	33
19	Cost Savings, Offsite New Construction, Owner Prototypes	34
20	Net Affordability Costs, Offsite New Construction, Rental Prototypes	35
21	Net Affordability Costs, Offsite New Construction, Owner Prototypes	36
22	Per-Unit Acquisition Cost Assumptions, Existing Multifamily Rental Properties	37
23	Cost Savings, Acquisition/Rehabilitation, Rental Prototypes	39
24	Cost Savings, Acquisition/Rehabilitation, Owner Prototypes	40
25	Net Affordability Costs, Acquisition/Rehabilitation, Rental Prototypes	41
26	Net Affordability Costs, Acquisition/Rehabilitation, Owner Prototypes	42
27	Cost Savings, Additional Bedroom Credit, Rental Prototypes	43
28	Cost Savings, Additional Bedroom Credit, Owner Prototypes	44
29	City of Long Beach Market Rent Data	46
30	Estimated Market Home Sales Prices, Owner Housing Prototypes	47

List of Tables (Continued)
City of Long Beach
Inclusionary Housing Study

TABLE	TITLE	PAGE
31	Residual Land Value Per Square Foot Site Area, Renter Housing Prototypes with Alternative Inclusionary Housing "Packages," Inclusionary Scenario 1: 10% of Units Affordable at 45% of Area Median Income	49
32	Residual Land Value Per Square Foot Site Area, Owner Housing Prototypes with Alternative Inclusionary Housing "Packages," Inclusionary Scenario 1: 10% of Units Affordable at 90% of Area Median Income	50

List of Charts
City of Long Beach
Inclusionary Housing Study

CHART	TITLE	PAGE
1	Renter Prototype 1: Townhomes	51
2	Renter Prototype 2: Type V High-Density Apartments	52
3	Owner Prototype 1: Small Lot Single-Family Detached	53
4	Owner Prototype 2: Townhomes	54
5	Owner Prototype 3: Type V High-Density Condos	55
6	Owner Prototype 4: Type I High-Rise Condos	56

Long Beach Inclusionary Housing Analysis

A. Background

The City of Long Beach commissioned David Paul Rosen & Associates (DRA) to prepare background economic research and analysis on the potential costs to developers of complying with an inclusionary housing program and the potential value of economic incentives which may be offered to offset these costs. The purpose of the study is to document economic data and analyses to assist the City Council in reaching informed decisions on establishment of an inclusionary housing program to increase the supply of affordable housing in the City of Long Beach. The program under consideration would be implemented by an inclusionary housing ordinance with affordable housing requirements for all new residential development citywide. Incentives to help offset the additional cost incurred by the developers may be offered.

The impetus behind the consultant study is the recognition by Long Beach policymakers of the critical shortage of affordable housing in the City and the importance of affordable housing to the overall local economy and livability of the community. Inclusionary housing is one of the most important strategies the City can pursue to meet its affordable housing needs, which by any measure have been sustained at crisis levels for more than a decade.

DRA conducted the necessary economic analysis to identify and quantify the value of various incentives to the developer and to determine the extent to which they offset the cost of providing affordable units in various prototypical development projects.

Every development has its unique economic circumstances. Nevertheless, residential development is governed by clear market forces, economic, financial and underwriting norms. It is these norms which DRA has modeled, based on its substantial development experience, both nationally and in Southern California particularly. So while individual economic assumptions may vary somewhat deal by deal, the analysis contained in the report is representative of the economic and financial standards which determine owner and renter housing development in Long Beach in 2003.

B. Methodology and Data Sources

The methodology for the economic analysis uses six housing prototypes, two rental and four ownership, to estimate the costs to private developers of providing affordable units of various housing types under an inclusionary program. A series of affordability standards was analyzed, representing alternative percentages of affordable housing that would be required of market-rate developers.

A "gap" analysis approach is used to measure the difference between what households of different income levels can afford to pay for renter and ownership housing and what it costs to produce such housing in the City of Long Beach. This gap represents the

"affordability cost" to the private developer of meeting the affordability requirements and standards under consideration.

The affordability cost is then compared to potential cost savings from various offsets that might be offered to housing developers. These include:

1. Density bonuses; and
2. Development fee waivers or deferrals;
3. Design modifications for the Below Market Rate (BMR) units.

We first estimated baseline development costs for the six housing prototypes. These "baseline" costs assume the prototypes are built to City code. Second, we used these baseline development costs to determine the costs to the developer of the proposed affordability standards. Third, the potential cost savings from the incentives, offsets and alternative compliance provisions listed above are compared to the affordability cost, illustrating the net impact of the hypothetical regulatory "package."

Development costs for the housing prototypes were estimated with the assistance of local developers, published cost indices, City planning staff, and a review of actual land sales prices.

Land costs were estimated by DRA based on a review of numerous land sales comparables derived from Dataquick Information Systems for residential land sales in the City of Long Beach between 1998 and January, 2003. These include land sales for sites that have been developed recently or are proposed for residential development.

Development fees (including school fees, City building permit fees, and City Transportation and Improvement, Sewer Capacity, Parks and Recreation, Bluff Park Access, and Art in Public Places development impact fees), were estimated for each of the housing prototypes with the assistance of staff and published fee schedules from the Department of Planning and Building.

C. Baseline Development Costs of Housing Prototypes

1. Housing Prototypes

Six prototypical housing projects have been selected for the development cost analysis in consultation with City staff and a review of planned and recently developed residential projects in Long Beach. The prototypes include two rental projects and four ownership projects. The prototypes are intended to represent a range of typical market-rate housing products that are currently built in Long Beach or may be built in the near future. The bedroom mix and unit size assumptions are intended to illustrate potential market-rate products.

DRA considered the inclusion of mixed-use prototypes that contain both housing and commercial/retail development. DRA and area developers determined that the selected housing prototypes could represent the housing portion of any mixed-use development likely to be built in Long Beach. For example, ground floor retail may replace ground floor housing in any of the higher density prototypes where it is determined that commercial use is more economical than housing.

The two rental housing prototypes are described in **Table 1** with respect to number of housing units, product and construction characteristics, density, bedroom mix and unit size. **Table 2** similarly describes the four owner housing prototypes.

In order to verify the physical feasibility of developing the six housing prototypes within existing citywide zoning regulations in Long Beach, a site planning evaluation was conducted for each prototype. This analysis validated that the prototypes could feasibly be built at the proposed densities given existing parking, open space requirements, and minimum lot area requirements limits in the City. The analysis for the six baseline prototypes is contained in **Appendix C**.

2. Prototypical Development Costs

DRA estimated the total development costs for the housing prototypes, including land, hard construction costs, development fees, soft or indirect costs, sales/marketing costs, developer profit and overhead, as described below. Additional detail on the land and development cost estimates is provided in **Appendix B**, Costs of Alternative Affordability Requirements.

a. Land Costs

DRA examined sales data for vacant land with residential and planned development (PD) zoning sold in the City of Long Beach between 1998 and February, 2003 based on assessors data from Dataquick Information Systems. The land sales comparables examined for this analysis revealed a wide variation in per square foot land prices of $4 to $370 per square foot, with a median sales price of about $39 per square foot. Many of the parcels are very small in size, and the sales may represent developer/landowner attempts to consolidate larger parcels.

DRA also examined available appraisals and land value estimate studies for vacant land with residential and planned development (PD) zoning in the City provided by City staff. These studies indicated a much narrower range of residential land values of $10 to $30 per square foot, with a median of $19 per square foot.

For the purposes of the affordability gap analysis, DRA assumed a typical land cost of $25 per square foot, which is the median of all of land sales and appraised land values examined. The economic impact analysis is not based on an assumed land value. Rather, the land residual analysis calculates the land value generated by each prototype based on assumptions of development costs and revenues (rents or sales prices).

Table 1
Rental Housing Prototype Projects
Long Beach Inclusionary Housing Analysis

	Renter 1	Renter 2
PROTOTYPE	Townhomes	Type V Stacked Flats Apartments
Total Unit Count	22 Units	50 Units
Zoning	R-3-T	R-4-R, R-4-N
FAR	0.64	1.76
Resident Population	Family	Family
Product Type	Townhomes 2 Stories	Stacked Flats 5 Stories
Construction Type	Type V	Type V
Density (DU's/Acre)	25	70
Land Area (Acres)	0.88 Acres	0.71 Acres
Units by BR Count		
One Bedroom	4	7
Two Bedroom/1 Bath	3	8
Two Bedroom/2 Bath	11	25
Three Bedroom	4	10
Unit Size (Net SF)		
One Bedroom	900	800
Two Bedroom/1 Bath	950	950
Two Bedroom/2 Bath	1,000	1,000
Three Bedroom	1,200	1,100
Average	*1,011*	*984*
Building Square Feet		
Net Living Area	22,250	49,200
Type of Parking	1 Level Semi-Subterranean 7,508 SF 28 Standard 27 Compact	1 Level Subterranean (1) 15,441 SF 57 Standard 56 Compact
No. of Parking Spaces	55	113

(1) Plus 1 ground level parking.
Source: David Paul Rosen & Associates

Table 2
Owner Housing Prototype Projects
Long Beach Inclusionary Housing Analysis

	Owner 1	Owner 2	Owner 3	Owner 4
PROTOTYPE	Small Lot S-F Detached	Townhomes	Type V Stacked Flat Condos	Type I High-Rise Condos
Total Unit Count	10 Units	22 Units	50 Units	100 Units
Zoning	R-1-M, R-1-S, R-1-T	R-3-T	R-4-R, R-4-N	R-4-U
FAR	0.44	0.75	1.98	2.94
Resident Population	Family	Family	Family	Family
Product Type	SFD 2 Story, PUD	Townhomes 2 Stories	Stacked Flats 5 Stories	Stacked Flats, 9 Stories
Construction Type	Type V with Garages	Type V with Covered parking	Type V over Podium Parking	Type I over Underground Parking
Density (DU's/Acre)	15	25	70	100
Net Site Area (Acres)	0.67 Acres	0.88 Acres	0.71 Acres	1.00 Acres
Streets, etc @ % of Gross:	20.00%	0.00%	0.00%	0.00%
Gross Site Area	0.838 Acres	0.880 Acres	0.710 Acres	1.000 Acres
Units by BR Count				
Lofts	0	0	0	10
One Bedroom	0	0	7	10
Two Bedroom/1 Bath	0	13	8	10
Two Bedroom/2 Bath	4	0	25	50
Three Bedroom	6	9	10	20
Unit Size (Net SF)				
Lofts	0	0	0	800
One Bedroom	0	0	800	800
Two Bedroom/1 Bath	0	1,100	1,000	1,000
Two Bedroom/2 Bath	1,150	0	1,100	1,100
Three Bedroom	1,350	1,300	1,400	1,400
Four Bedroom	0	0	0	0
Manager's	0	0	0	0
Ave. (Exclud. Mgr's)	*1,270*	*1,182*	*1,102*	*1,090*
Building Square Feet				
Net Living Area	12,700	26,000	55,100	109,000
Type of Parking	Attached Garages 4,000 SF 200 SF/Space	1 Level Semi-Subterranean 7,508 SF 28 Standard 27 Compact	1 Level Subterranean (1) 15,441 SF 57 Standard 56 Compact	2 Levels Subterranean (1) 30,724 SF 113 Standard 112 Compact
No. of Parking Spaces	20	55	113	225

(1) Plus 1 ground level parking.
Source: David Paul Rosen & Associates.

Land cost estimates assume that improvements are provided to the boundary of the development site. On-site infrastructure and utilities are subsumed in the hard construction cost figures.

b. Hard Construction Costs

Hard construction costs were estimated for the six housing prototypes based on interviews with developers active in the Los Angeles and Long Beach areas. Hard costs include residential and parking area hard costs expressed per gross square foot of residential building area. The hard cost assumptions used in the analysis are summarized in **Table 3**.

Table 3
Per Square Foot Hard Construction Costs Construction Costs
Long Beach Inclusionary Housing Analysis
2003

Owner #1 Single-Family Detached Infill	Owner #2 Townhomes	Owner #3 Type V High-Density Condos	Owner #4 Type I High-Rise Condos
$55	$75	$85	$150

Renter #1 Townhomes	Renter #2 Type V High-Density Apts.
$70	$80

Source: DRA interviews of Los Angeles/Long Beach area housing developers; David Paul Rosen & Associates.

c. Development and Processing Fees

Development impact fees for new residential development in the City of Long Beach include school fees, City building permit fees, and City Transportation and Improvement, Sewer Capacity, Parks and Recreation, Bluff Park Access, and Art in Public Places development impact fees). Current fee levels were obtained from City staff and Department of Planning and Building published fee schedules. Construction valuation estimates are based on occupancy and construction type from the Department's "Building Valuation Data" sheet effective May 7, 2002, assuming "good" construction. Current development fees are summarized in **Table 4** below.

Table 4
Residential Development Impact Fees
Long Beach Inclusionary Housing Analysis
2003

School fees:	$2.14 per square foot
Building permit fee	$903 plus $4.30 per $1,000 construction valuation
Building plan check fee	85% of building permit fee
NPDES permit fee	$1.65 per $1,000 construction valuation
NPDES plan check fee	85% of building permit fee
Sewer fees[1]:	$727 per unit, one-bath units $925 per unit, two-bath units
Transportation & Improvement Fee	$1,125 per dwelling unit
Parks and Recreation Fee	$2,660 per single-family dwelling unit $2,070 per multi-family dwelling unit
Bluff Park Beach Access Fee	0.5% of construction value
Art in Public Places	1.0% of construction value

Source: Long Beach Department of Planning and Building, David Paul Rosen & Associates

[1] Per unit fees estimated by DRA based on the City's fee of $66.09 per equivalent fixture unit (EFU) and estimated EFU's derived from the City's sewer capacity worksheet.

d. Soft (Indirect) Development Costs

Soft or indirect costs were estimated based on DRA's experience with development in Long Beach and throughout Southern California. Estimated soft costs include:

- Architectural, engineering and design fees;
- Legal and closing costs;
- Taxes and insurance (during the construction period);
- Interest during construction (land and construction loans);
- Financing fees;
- Marketing and leasing (for the rental prototypes);
- Marketing and sales costs (for the owner prototypes)

Construction interest calculations assume loan to value ratios of 75 percent for the rental prototypes and 85 percent for the owner prototypes, based on input from the Building Industry Association and developer interviews. Actual loan to value ratios vary depending upon the developer, the project and the lender.

e. Total Development Costs

Total development costs, as defined for the purposes of this report, equal the sum of the above categories of development costs plus developer overhead and profit. Minimum developer profit is estimated at 12 percent of development costs, based on input from the Building Industry Association. This level is considered a baseline profit or "hurdle rate," representing the minimum necessary for the deal to proceed. Developer overhead is estimated at 4 percent of total development costs. Developer overhead cost line items typically represent a larger percentage of costs on small projects than larger projects. A more accurate estimate of actual overhead costs would specify line items charged to "overhead" but not included in "developer fee."

DRA considers a total of 16 percent for developer profit and overhead as high. In DRA's experience, developers have proceeded with half this amount of profit and overhead. DRA's approach to the inclusionary analysis is to model accurate market conditions, erring on the side of conservatism. Therefore, we have chosen to accept a 16 percent developer profit and overhead figure for the purposes of this analysis.

Table 5 presents the estimated baseline total development costs for the two rental housing prototypes. **Table 6** presents the estimated total development costs for the four ownership housing prototypes. Additional detail on the development fee estimates for each of the prototypes is contained in **Appendix B**.

Table 5
Estimated Prototype Development Costs
Rental Housing Prototypes
Long Beach Inclusionary Housing Analysis

	Renter 1 Townhomes	Renter 2 Type V Stacked Flats Apartments
Acres	0.880	0.714
Number of Units	22	50
Parking Spaces	55	113
Net Square Feet Living Area	22,250	49,200
Total Net Square Feet	22,250	49,200
Ratio Net/Gross SF	90%	90%
Total Gross Square Feet Building Area	24,722	54,667
LAND ACQUISITION (1)	$958,320	$777,546
LAND CARRYING COSTS (2)	$14,375	$11,663
SITE IMPROVEMENTS (3)	$229,997	$186,611
BUILDING SHELL (4)	$1,730,540	$4,373,360
HARD COST CONTINGENCY (5)	$98,027	$227,999
ARCH./ENG./CONSTR. SUPERVISION (6)	$137,238	$319,198
CITY BUILDING PERMIT FEES (7)	$25,226	$54,903
SCHOOL FEES (8)	$47,615	$105,288
SEWER CAPACITY FEES (9)	$18,964	$43,280
TRANSPORTATION AND IMPROVEMENT FEE (10)	$24,750	$56,250
PARKS AND RECREATION FEES (11)	$45,540	$103,500
BLUFF PARK BEACH ACCESS FEE (12)	$11,048	$24,529
ART IN PUBLIC PLACES FEE (13)	$22,096	$49,058
ALTA SURVEY (14)	$3,000	$3,000
ENVIRONMENTAL PHASE I (15)	$7,500	$7,500
SOILS TESTING (16)	$10,000	$10,000
CONSTRUCTION LOAN FEES (17)	$33,047	$61,894
CONSTRUCTION/LEASE-UP INTEREST (18)	$173,496	$324,941
PROPERTY INSURANCE (19)	$11,763	$27,360
PROPERTY TAXES DURING CONSTR. (20)	$14,704	$34,200
CONSTR. LOAN TITLE AND CLOSING (21)	$15,000	$15,000
APPRAISAL FEES (22)	$7,000	$10,000
LEGAL (23)	$15,000	$30,000
MARKET STUDY/CONSULTING (24)	$25,000	$25,000
MARKETING/LEASE-UP/START-UP (25)	$22,000	$50,000
DEVELOPER OVERHEAD (26)	$176,250	$330,099
DEVELOPER PROFIT (27)	$528,749	$990,297
TOTAL PROJECT COSTS	$4,406,245	$8,252,475
TOTAL COST PER UNIT	$200,284	$165,049
TOTAL COST PER SQUARE FOOT	$178.23	$150.96
TOTAL COSTS, WITHOUT LAND	$3,433,550	$7,463,266
TOTAL COST PER UNIT	$156,070	$149,265
TOTAL COST PER SQUARE FOOT	$238.86	$639.90

Source: David Paul Rosen & Associates

Table 5 Footnotes
Estimated Prototype Development Costs
Renter Housing Prototypes
Long Beach Inclusionary Housing Analysis

(1) Estimated at $25 per square foot, based on land sales comparables by zoning category. (See Appendix A).
(2) Carrying costs on land assumed to equal property taxes at 1.2 percent of land costs over the construction period.
(3) Estimated site improvement cost of $6.00 per square foot site area.
(4) Based on hard construction costs of $70 per square foot for Renter #1 (Townhomes) and $80 per square foot for Renter #2 (Type V Stacked Flats Apartments).
(5) Contingency assumed at 5% of unit hard construction costs plus site improvement costs.
(6) Architecture/engineering estimated at 7% of hard costs.
(7) Building permit fee equals $903 plus $4.30 per $1,000 valuation; plan check fee is 85% of building permit fee. NPDES fee equals $1.65 per $1,000 valuation; NPDES plan check fee equals 85% of NPDES permit fee.
(8) At $2.16 per net square foot living area.
(9) Based on $66.09 per equivalent fixture unit and estimated per unit fees of $727 for units with one bath and $925 for units with two baths.
(10) At $1,125 per unit.
(11) At $2,660 per unit for single-family units.
(12) At 0.5% of construction value.
(13) At 1.0% of construction value.
(14) Estimated per project costs.
(15) Estimated per project costs.
(16) Estimated per project costs.
(17) At 1.0% of construction loan amount, which is assumed to equal 75 percent of total development costs.
(18) Assumes 7.00% construction loan interest rate, construction loan equal to 75% of total development costs, and 60% average loan balance. Assumed construction/lease-up period is 15 months for Renter Prototypes #1 (Townhomes) and #2 (Type 5 Stacked Flats).
(19) Insurance during construction assumed at 1 percent of hard costs.
(20) Calculated at 1.2 percent of 50% of the construction costs over the construction period.
(21) Estimated per project costs.
(22) Estimated per project costs.
(23) Estimated per project costs.
(24) Estimated per project costs.
(25) Marketing/lease-up/start costs estimated at $1,000 per unit.
(26) Developer overhead estimated at 4 percent of total development costs.
(27) Minimum developer profit assumed at 11 percent of total development costs.

Table 6
Estimated Prototype Development Costs
Owner Housing Prototypes
Long Beach Inclusionary Housing Analysis

	Owner 1 Small Lot S-F Detached	Owner 2 Townhomes	Owner 3 Type V Stacked Flat Condos	Owner 4 Type I High-Rise Condos
Gross Site Area	0.838	0.880	0.710	1.000
Net Lot Area	0.670	0.880	0.710	1.000
No. of Units	10	22	50	100
Parking Spaces	20	55	113	225
Net Square Feet Living Area	12,700	26,000	55,100	109,000
Total Net Square Feet	12,700	26,000	55,100	109,000
Ratio Net/Gross SF	100%	90%	90%	85%
Total Gross Square Feet Building Area	12,700	28,889	61,222	128,235
LAND ACQUISITION COSTS (1)	$912,038	$958,320	$773,190	$1,089,000
LAND CARRYING COSTS (2)	$10,944	$14,375	$13,917	$19,602
SITE IMPROVEMENTS (3)	$175,111	$229,997	$185,566	$261,360
BUILDING SHELL HARD COSTS (4)	$698,500	$2,166,667	$5,203,889	$19,235,294
HARD COST CONTINGENCY (5)	$43,681	$119,833	$269,473	$974,833
ARCH./ENG./CONSTR. SUPERVISION (6)	$26,208	$71,900	$161,684	$584,900
CITY BUILDING PERMIT FEES (7)	$14,890	$32,550	$67,829	$135,374
SCHOOL FEES (8)	$27,178	$55,640	$117,914	$233,260
SEWER CAPACITY FEES (9)	$9,250	$17,776	$43,280	$86,560
TRANSPORT. AND IMPROVE. FEE (10)	$11,250	$24,750	$56,250	$112,500
PARKS AND RECREATION FEE (11)	$26,600	$45,540	$103,500	$207,000
BLUFF PARK BEACH ACCESS FEE (123)	$6,353	$14,375	$30,400	$61,082
ART IN PUBLIC PLACES FEE (13)	$12,707	$28,750	$60,800	$122,163
CONSTRUCTION LOAN FEES (14)	$23,226	$45,464	$85,545	$279,493
CONSTRUCTION INTEREST (15)	$97,549	$238,686	$449,113	$1,467,340
ENVIRONMENTAL PHASE I (16)	$7,500	$7,500	$7,500	$7,500
SOILS TESTING (17)	$10,000	$10,000	$10,000	$10,000
PROPERTY TAXES (18)	$5,242	$17,975	$48,505	$175,470
INSURANCE (19)	$13,104	$71,900	$161,684	$584,900
SALES COMMISSIONS (20)	$27,325	$53,487	$100,642	$328,816
SELLING/CLOSING COSTS (21)	$136,624	$267,436	$503,208	$1,644,079
DEVELOPER OVERHEAD (22)	$109,299	$213,949	$402,566	$1,315,263
DEVELOPER PROFIT (23)	$327,897	$641,846	$1,207,698	$3,945,789
TOTAL PROJECT COST	$2,732,476	$5,348,716	$10,064,152	$32,881,577
PER UNIT	$273,248	$243,123	$201,283	$328,816
PER SF	$215.16	$185.15	$164.39	$256.42
TOTAL COST, EXCLUDING LAND	$1,809,494	$4,376,021	$9,277,044	$31,772,975
PER UNIT	$180,949	$198,910	$185,541	$317,730
PER SF	$142.48	$151.48	$151.53	$247.77

Table 6 Footnotes
Estimated Prototype Development Costs
Owner Housing Prototypes
Long Beach Inclusionary Housing Analysis

(1) Estimated at $25 per square foot based on land sales comparables by zoning category (see Appendix A). Per square foot land cost is multiplied by total gross square feet site area.
(2) Carrying costs on land assumed to equal property taxes at 1.2 percent of land costs over the construction period.
(3) Estimated site improvement cost of $6.00 per square foot site area.
(4) Estimated hard construction costs of $55 per square foot for Owner #1 (Single-family Detached), $75 per square foot for Owner #2 (Townhomes), $85 per square foot for Owner #3 (Type V Stacked Flats Condos), and $150 for Owner #4 (Type I High Rise Condos).
(5) Contingency assumed at 5%of unit hard construction costs plus site improvement costs.
(6) Architecture/engineering costs assumed to equal 3% of unit hard construction costs.
(7) Building permit fee equals $903 plus $4.30 per $1,000 valuation; plan check fee is 85% of building permit fee. NPDES fee equals $1.65 per $1,000 valuation; NPDES plan check fee equals 85% of NPDES permit fee.
(8) At $2.14 per net square foot living area.
(9) Based on $66.09 per equivalent fixture unit and estimated per unit fees of $727 for units with one bath and $925 for units with two baths.
(10) At $1,125 per unit.
(11) At $2,660 per unit for single-family units.
(12) At 0.5% of construction value.
(13) At 1.0% of construction value.
(14) Estimated at 1.0% of construction loan amount.
(15) Assumes 7.00% construction loan interest rate, construction loan equal to 85% of total development costs, and 60% average loan balance. Assumed construction loan period is 12 months for Owner Prototype #1 (SFD), 15 months for Owner Prototype #2 (Townhomes), and 18 months for Owner Prototypes #3(Type V Stacked Flats) and #4 (Type I High Rise).
(16) Estimated per project cost.
(17) Estimated per project cost.
(18) Calculated at 1.2 percent of 50% of the construction costs over the construction period Sales commissions assumed at 3 percent of total development costs on one-third of total units.
(19) Insurance costs assumed at 1.5 percent of total development costs for the detached prototype (Owner #1) and 3.0% of total development costs for the attached prototypes (Owner #2, #3, #4).
(20) Selling/closing costs assumed at 5 percent of total development costs.
(21) Developer overhead estimated at 4 percent of total development costs.
(22) Minimum developer profit assumed at 11 percent of total development costs.

D. Estimated Costs of Alternative Affordability Standards

DRA estimated the affordability cost of alternative inclusionary housing requirements using the six housing prototypes described above. A "gap" analysis approach was used to measure the difference between what households at different income levels can afford to pay for renter and ownership housing and the costs of producing such housing in the City of Long Beach. This gap represents the "affordability cost" to the private developer of providing Below Market Rate (BMR) units in compliance with the affordability program under consideration.

The gap analysis contains three main steps:

1. define affordability standards for the BMR units;

2. estimate housing development costs;

3. determine the "gap" between the costs household incomes can support and the total cost of developing the housing.

DRA modeled three alternative affordability standards for the renter and owner prototypes, developed in conjunction with Long Beach Housing Services Bureau (LBHSB) staff. The affordability standards are summarized in **Table 7** below with respect to percent of total housing units that must be affordable, the income level as a percentage of area median income, and affordable housing cost as a percentage of gross income.

In the analysis, the number of units required to meet the inclusionary standard or set-aside is rounded down to the nearest whole number of units. Therefore, the affordability gap is slightly understated in instances where direct application of the set-aside would result in a fractional unit requirement.

Table 7
Affordability Standard Alternatives
Long Beach Inclusionary Housing Analysis

Affordability Standard Alternative	Affordable Units as a % of Total Units	Income Level (% Area Median Income)	Affordable Housing Cost (% Gross Income)
RENTAL PROTOTYPES:			
Alternative 1	10%	45% AMI	30%
Alternative 2	10%	60% AMI	30%
Alternative 3	15%	60% AMI	30%
OWNER PROTOTYPES:			
Alternative 1	10%	90% AMI	35%
Alternative 2	15%	90% AMI	35%
Alternative 3	20%	90% AMI	35%

Income limits for the analysis are based on the U.S. Department of Housing and Urban Development published 2003 income limits for the Los Angeles-Long Beach MSA, which have been adopted by the State of California Department of Housing and Community Development (HCD).

HUD reports a median family income of $50,300 for the Los Angeles-Long Beach MSA for 2003. In establishing its income limits, HUD begins by calculating very low income limits as 50 percent of area median income. However, in high housing cost areas, the very low income limit is increased based on a formula incorporating Section 8 fair market rents for a two-bedroom unit. This adjusts income limits upward for areas where rental housing costs are unusually high in relation to the median income. This is what occurred in Los Angeles in 2003. HUD's 2003 very low income limit in LA for a family of four is $28,200. HUD further establishes its other income limits proportionally to the very low income limits. We have used this same convention in determining income limits and

affordable rents for the 45 percent of area median income and 60 percent of area median income categories for the renter inclusionary housing analysis, by basing them off of the very low income limits.

The California Department of Housing and Community Development (HCD) publishes median and moderate income limits used by various affordable housing programs in the State. DRA derived its income limits and affordable housing costs for the 90 percent of area median income category for the owner inclusionary housing analysis from the HCD 2003 median income limits.

Affordable housing cost is defined at 30 percent of gross income for renter, including rent plus utilities. State redevelopment law and most federal affordability standards for renters are now established at 30 percent.

Affordable housing cost is defined at 35 percent of gross income and includes principal and interest, loan insurance (PMI), property taxes, fire and casualty insurance, utilities and homeowner association fees. This standard is based on typical lender requirements.

Detailed assumptions are presented in **Appendix B**.

Table 8 below shows affordable monthly housing expense for household sizes ranging from one person to six persons within each of the three income levels. Affordable monthly housing expense is adjusted by household size based on an assumed occupancy standard of two persons per bedroom plus one. These figures indicate that a family of four at 90 percent of area median income should have to spend no more than $1,446 per month to purchase housing (at the 35 percent standard). A four-person renter household earning 45 percent of area median income could afford $635 per month for rent and utilities (at the 30 percent standard)

Table 8
Affordable Monthly Housing Expense [1]
Long Beach Inclusionary Housing Study
2003

	Percent of Area Median Income					
	Renters: 45% AMI		Renters: 60% AMI		Owners: 90% AMI	
Bedroom Count/ Household Size	Income Limits[2]	Aff. Hsg Exp.	Income Limit[2]	Aff. Hsg Exp.	Income Limit[3]	Aff. Hsg. Exp.
1 Bedroom/ 2 Persons	$20,300	$508	$27,070	$677	$39,670	$1,157
2 Bedroom/ 4 Persons	$25,380	$635	$33,840	$846	$49,590	$1,446
3 Bedroom/ 6 Persons	$29,440	$736	$39,250	$981	$57,520	$1,678

[1] Assumes 30% of income spent on housing for renters (rent plus utilities) and 35% for owners (principal, interest, taxes, insurance, utilities and homeownership association fee/maintenance expense).
[2] U.S. Department of Housing and Urban Development published very low 2003 income limits, adjusted proportionally for 45% and 60% of percentage of area median income categories.
[3] California Department of Housing and Community Development published 2003 median income limits, adjusted proportionally for 90% of percentage of area median income category.

Source: U.S. Department of Housing and Urban Development; California Department of Housing and Community Development; David Paul Rosen & Associates.

Table 9 shows the estimated total affordability gap for the three set-aside alternatives for the renter prototypes, and the per unit gap across all units in the project. The gap is calculated by subtracting total development costs for the affordable units from the supportable mortgage for these units. Affordable rents are based on the income limits and affordable housing cost expense from Table 8, less 2003 HUD utility allowances from the Long Beach Housing Authority including natural gas cooking, heating and water heating, and basic electricity. Net operating income from the affordable units is calculated assuming an annual operating cost of $2,600 per unit, property taxes at 1.20%, annual replacement reserves of $250 per unit, and a 3 percent vacancy rate. The affordable mortgage is calculated based on a debt coverage ratio of 1.25, 30 year term, and mortgage interest rate of 8.0 percent.

Table 9
Affordability Gap on Inclusionary Units
Rental Housing Prototypes
Long Beach Inclusionary Housing Analysis

Prototype		Renter 1 Townhomes	Renter 2 Type V Stacked Flats Apartments
Total Units		22	50
Inclusionary Units, Alternative 1:		2	5
45% of Median	10.0%	2	5
60% of Median	0.0%	0	0
Net Operating Income, Affordable Units (1)		$3,635	$11,875
Supportable Mortgage, Affordable Units (2)		$33,024	$107,891
Development Costs, Affordable Units		$388,784	$817,448
Total Affordability Gap, Inclus. Units		$355,760	$709,557
Average Afford. Gap per Unit (All Units)		$16,171	$14,191
Inclusionary Units, Alternative 2:		2	5
45% of Median	0.0%	0	0
60% of Median	10.0%	2	5
Net Operating Income, Affordable Units (1)		$8,058	$24,062
Supportable Mortgage, Affordable Units (2)		$73,211	$218,618
Development Costs, Affordable Units		$388,784	$817,448
Total Affordability Gap, Inclus. Units		$315,573	$598,830
Average Afford. Gap per Unit (All Units)		$14,344	$11,977
Inclusionary Units, Alternative 3:		3	7
45% of Median	0.0%	0	0
60% of Median	15.0%	3	7
Net Operating Income, Affordable Units (1)		$14,176	$35,109
Supportable Mortgage, Affordable Units (2)		$128,800	$318,988
Development Costs, Affordable Units		$588,716	$1,162,167
Total Affordability Gap, Inclus. Units		$459,916	$843,179
Average Afford. Gap per Unit (All Units)		$20,905	$16,864

(1) Based on income limits and affordable housing cost expense from Table 8; 2003 HUD utility allowances from the Long Beach Housing Authority including natural gas cooking, heating and water heating, and basic electricity; annual operating cost of $2,600 per unit; property taxes at 1.20%; annual replacement reserve of $250 per unit; 3% vacancy rate.

Source: David Paul Rosen & Associates

Table 10 shows estimated total affordability gap for the three set-aside alternatives for the owner prototypes. For owners, the gap is calculated by subtracting total development costs for the affordable units from the supportable mortgage for these units plus a 10 percent downpayment. Affordable mortgage principal and interest is calculated from the income limits and affordable housing cost expense from Table 8, less 2003 HUD utility allowances from the Long Beach Housing Authority including natural gas cooking, heating and water heating, basic electricity, trash, water and sewer; estimated HOA/maintenance expense of $100 per month; property insurance expense of $50 per month; and property taxes at 1.2 percent of the affordable mortgage. The affordable mortgage is calculated assuming a mortgage interest rate of 7.5 percent and a 30-year mortgage term.

Tables 9 and 10 calculate the affordability gap for the affordable units. Depending on whether the land values assumed in the development cost estimates for each prototype are supportable based on market rents and sales prices, there could also be a "feasibility" gap for the market-rate units. If the assumed land cost is higher than the residual land value indicated in the economic impact analysis (Section H below), there will be a gap.

As noted above, the number of units required to meet the inclusionary standard or set-aside is rounded down to the nearest whole number of units. Therefore, the affordability gap is slightly understated in instances where direct application of the set-aside would result in a fractional unit requirement.

Detailed calculations of the affordability gap are contained in Appendix B.

Table 10
Affordability Gap on Inclusionary Units
Owner Housing Prototypes
Long Beach Inclusionary Housing Analysis

		Owner 1	Owner 2	Owner 3	Owner 4
Prototype		S-F Detached	Townhomes	Type V Stacked Flat Condos	Type I High-Rise Condos
Total Units		10	22	50	100
Inclusionary Units, Scenario 1:		1	2	5	10
90% of Median	10.0%	1	2	5	10
Supportable Mortgages, Afford. Units (1)		$165,761	$307,704	$702,619	$1,405,238
Plus: Downpayments @:	10.0%	$18,418	$34,189	$78,069	$156,138
Total Sales Inc., Afford. Units		$184,179	$341,894	$780,688	$1,561,376
Development Costs, Affordable Units		$279,605	$491,176	$994,841	$3,292,029
Total Affordability Gap, Inclus. Units		$95,426	$149,282	$214,153	$1,730,653
Average Afford. Cost (Net Income) per Unit (All Units)		$9,543	$6,786	$4,283	$17,307
Inclusionary Units, Scenario 2:		1	3	7	15
90% of Median	15.0%	1	3	7	15
Supportable Mortgages, Afford. Units (1)		$165,761	$449,647	$986,506	$2,053,125
Plus: Downpayments @:	10.0%	$18,418	$49,961	$109,612	$228,125
Total Sales Inc., Afford. Units		$184,179	$499,608	$1,096,118	$2,281,250
Development Costs, Affordable Units		$279,605	$725,734	$1,397,871	$4,791,367
Total Affordability Gap, Inclus. Units		$95,426	$226,126	$301,753	$2,510,116
Average Afford. Cost (Net Income) per Unit (All Units)		$9,543	$10,278	$6,035	$25,101
Inclusionary Units, Scenario 3:		2	4	10	20
90% of Median	20.0%	2	4	10	20
Supportable Mortgages, Afford. Units (1)		$307,704	$591,591	$1,436,153	$2,810,477
Plus: Downpayments @:	10.0%	$34,189	$65,732	$159,573	$312,275
Total Sales Inc., Afford. Units		$341,894	$657,323	$1,595,726	$3,122,752
Development Costs, Affordable Units		$544,436	$960,292	$2,026,709	$6,584,057
Total Affordability Gap, Inclus. Units		$202,543	$302,969	$430,983	$3,461,305
Average Afford. Cost (Net Income) per Unit (All Units)		$20,254	$13,771	$8,620	$34,613

(1) Based on income limits and affordable housing cost expense from Table 8; mortgage interest rate of 7.5 percent and 30-year term; 2003 HUD utility allowances from the Long Beach Housing Authority including natural gas cooking, heating and water heating, basic electricity, trash, water and sewer; HOA/maintenance expense of $100/month; property insurance expense of $50/month; property taxes at 1.20 percent of affordable mortgage.

Source: David Paul Rosen & Associates.

E. Estimated Value of Economic Incentives

The three main components of real estate development costs are land, improvements and financing. Local regulation can influence each of these costs in different ways.

Local government can influence land costs, at least temporarily, through the regulation of such factors as density, lot coverage, floor area ratio (FAR) and height limits. If, for example, the allowable number of units on a given parcel is increased, the land basis per unit is decreased and this land cost savings can be passed on into lower project development costs. These savings, or costs, typically accrue to the current landowner. The local zoning actions may affect prices of land sales occurring after the effective date of zoning regulations.

Many physical improvement costs associated with preparing the land and building the homes generally increase with inflation and are not easily influenced locally. However, development impact fees charged by localities to finance public improvements do affect the cost of development. Even the deferral of fee collection to a later point in the development process can affect costs. In addition, regulation of the size and design of buildings can have a significant effect on housing costs.

Financing costs are largely dependent on interest rates, which fluctuate widely with national economic conditions and federal policy, and are little affected by local policies. However, local governments can make available tax-exempt financing programs that lower interest costs and therefore total development costs. These programs are not modeled here. Current programs are very competitive and not available for all residential developments. Furthermore, the policy goal of inclusionary housing is the provision of affordable units without public subsidy.

Other state or national forces influence residential development. The 1986 Tax Reform Act repealed the Accelerated Cost Recovery System and had a major impact on financial returns from investment in rental housing. The effect is shown in a notable decline in rental building permit activity after 1986, as shown in Section I of this report.

DRA developed, with LBHSB staff, the following list of potential developer offsets and incentives to be included in the quantitative cost analysis:

- Density bonus program;
- Development fee deferrals;
- Affordable unit design modifications (unit size, interior finish, product type).

For each incentive, cost savings were measured as a total dollar amount, per building square foot and per dwelling unit for each prototype. Per square foot and per unit measures are calculated across all of the dwelling units in the project (not just the BMR units). The analysis of cost savings from offsets and incentives is contained in **Appendix C** of this report.

1. Density Bonus

California Government Code 65915 requires that cities provide density bonuses representing a 25 percent increase over the maximum density allowed within the applicable residential zone to developers meeting specified rent restrictions. These rent restrictions are as follows:

- at least 20 percent of total units must be made available at rents not to exceed 30 percent of 60 percent of area median income, adjusted for family size, less utilities; or

- at least 10 percent of total units must be made available at rents not to exceed 30 percent of 50 percent of area median income, adjusted for family size, less utilities; or

- at least 50 percent of the total units must be made available to the elderly.

The affordable units must be reserved as affordable housing for at least 30 years.

The purpose of the density bonus program is to encourage the development of affordable housing by increasing permitted residential densities, thereby decreasing per unit land costs to the developer.

The impact of a 25 percent density bonus on affordability costs was calculated for each of the renter and owner prototype projects. This analysis repeats the steps of the gap analysis for each of the prototypes assuming a 25 percent increase over the initial density. This is a conservative assumption, since State law requires that the 25 percent bonus be applied to the maximum allowable density of the applicable residential zone, not the original proposed density of a project.

DRA also modeled the impact of a 50 percent density bonus for each of the renter and owner prototype projects.

DRA evaluated whether use of a 25 percent and/or the 50 percent density bonus requires a change in the prototype parking or unit construction type in order to accommodate the increased density on-site. DRA reviewed the basic feasibility of developing the six housing prototypes with the density increases within the guidelines of the zoning code. This analysis is contained in **Appendix C**.
The prototype feasibility analysis in Appendix C indicates the 25 percent and 50 percent density increases can be accommodated without a change in construction type, although the density (units per acre) may be greater than the maximum density under the assumed zoning.

2. Development Fee Deferrals

Delaying when development impact fees are paid will result in cost savings to the developer. Development fees such as the building permit, water, sewer and school fees are paid by the developer at building permit issuance. This means that the developer will generally incur interest carry costs for these fees during the construction period and through lease-up or sale of the project. If the payment of fees were deferred from the time of building permit to certificate of occupancy, Long Beach developers would realize savings in the form of reduced interest costs.

The payment period for school fees is established by the governing body of each school district and is therefore not under City control. The value to the developer of fee deferrals for the building permit, sewer and water fees was estimated assuming deferral of fee payment from building permit to Certificate of Occupancy.

3. BMR Comparability Standards.

Allowing modest differences between Below Market Rate (BMR) units and market rate units is another means to reduce the affordability cost to the developer. Potential cost savings were estimated for the following BMR unit comparability standards:

- The size of BMR unit may be reduced to minimum unit sizes. The proposed minimum unit sizes are listed below. Three-bedroom BMR units may be provided where the market-rate units are four-bedrooms or larger.

One Bedroom	700
Two Bedroom	900
Three Bedroom	1,100

- The number of bathrooms in BMR units may be reduced to one bathroom in two-bedroom units where the market units have two bathrooms.

- More modest grades of interior finish may be permitted in the BMR units.

F. Comparison of Affordability Costs and Cost-Savings from Incentives

Table 11 and **Table 12** summarize estimated total economic value of incentives, excluding density bonus, for the renter and owner prototypes, respectively. These tables show the estimated cost savings for each of the incentives and reforms described above, including the total savings for the project and per unit and per square foot cost savings averaged across all units in the development (market and affordable).

Table 13 and **Table 14** show total cost savings, representing the potential total cost savings to the developer from the total "package" of incentives, for the renter and owner prototypes, respectively.

Table 15 and **Table 16** summarize estimated net savings (or costs) for the combination of total incentives, for the renter and owner prototypes, respectively. The potential total cost savings, with a 25 percent or a 50 percent density bonus, are subtracted from the estimated affordability cost for each prototype, providing the potential net cost (or savings) from the "package" of affordability standards and offsets. Net savings or costs are shown on a per unit basis, averaged across all units in the development.

Table 11
Total Economic Value of Incentives Excluding Density Bonus
Rental Housing Prototypes
Long Beach Inclusionary Housing Analysis

	Renter 1 Townhomes	Renter 2 Type V Stacked Flats Apartments
Acres	0.880	0.714
Number of Units (Baseline)	22	50
Net Square Feet Living Area	22,250	49,200
Total Gross Square Feet	24,722	54,667
POTENTIAL COST SAVINGS FROM INCENTIVES EXCLUDING DENSITY BONUS		
% Affordable Units		
Scenario 1 10.00% @ 45% AMI		
Reduction in BMR Unit Sizes (1)	$51,883	$77,226
Reduction in BMR Unit Bathroom Count (2)	$6,485	$12,871
Reduction in BMR Interior Finish Quality (3)	$19,000	$48,500
Deferral of Fees (4)	$17,083	$38,221
Total Savings, Scenario 1	**$94,452**	**$176,817**
Total Savings Per Unit, Scenario 1	**$4,293**	**$3,536**
Scenario 2 10.00% @ 60% AMI		
Reduction in BMR Unit Sizes (1)	$51,883	$77,226
Reduction in BMR Unit Bathroom Count (2)	$6,485	$12,871
Reduction in BMR Interior Finish Quality (3)	$19,000	$48,500
Deferral of Fees (4)	$17,083	$38,221
Total, Scenario 2	**$94,452**	**$176,817**
Total Savings Per Unit, Scenario 2	**$4,293**	**$3,536**
Scenario 3 15.00% @ 60% AMI		
Reduction in BMR Unit Sizes (1)	$71,340	$102,967
Reduction in BMR Unit Bathroom Count (2)	$6,485	$19,306
Reduction in BMR Interior Finish Quality (3)	$31,000	$69,500
Deferral of Fees (4)	$17,083	$38,221
Total, Scenario 3	**$125,909**	**$229,994**
Total Savings Per Unit, Scenario 3	**$5,723**	**$4,600**

(1) Based on reduction in unit sizes of affordable units to the following minimum unit sizes: one-bedroom--700 SF; two-bedroom--900 SF; three-bedroom--1,100 SF.

(2) Assumes number of bathrooms may be reduced by one (from two baths to one bath) in two-bedroom/two-bath affordable units.

(3) Assumes $10.00 per square foot reduction in interior finish costs.

(4) Assumes deferral of development impact fee payment from start of construction to certificate of occupancy. Represents a deferral of 12 months for Renters #1 and #2.

Source: David Paul Rosen & Associates

Table 12
Total Economic Value of Incentives Excluding Density Bonus
Owner Housing Prototypes
Long Beach Inclusionary Housing Analysis

	Owner 1 Small Lot S-F Detached	Owner 2 Townhomes	Owner 3 Type V Stacked Flat Condos	Owner 4 Type I High-Rise Condos
Acres	0.670	0.880	0.710	1.000
Number of Units (Baseline)	10	22	50	100
Net Square Feet Living Area	12,700	26,000	55,100	109,000
Total Gross Square Feet	12,700	28,889	61,222	128,235
POTENTIAL COST SAVINGS FROM INCENTIVES EXCLUDING DENSITY BONUS				
% Affordable Units @ 90% AMI				
Scenario 1 **10.00%**				
Reduction in BMR Unit Sizes (1)	$33,870	$58,283	$72,823	$217,504
Reduction in BMR Unit Bathroom Count (2)	$0	$0	$24,658	$96,156
Reduction in BMR Interior Finish Quality (3)	$13,500	$24,000	$54,000	$109,000
Fee Deferral (5)	$7,576	$19,196	$50,397	$100,584
Total	$54,946	$101,479	$201,879	$523,243
Per Unit (All Units)	$5,495	$4,613	$4,038	$5,232
Scenario 2 **15.00%**				
Reduction in BMR Unit Sizes (1)	$33,870	$87,425	$72,823	$290,005
Reduction in BMR Unit Bathroom Count (2)	$0	$0	$49,316	$134,618
Reduction in BMR Interior Finish Quality (3)	$13,500	$35,000	$76,000	$157,000
Fee Deferral (5)	$7,576	$19,196	$50,397	$100,584
Total	$54,946	$141,621	$248,537	$682,207
Per Unit (All Units)	$5,495	$6,437	$4,971	$6,822
Scenario 3 **20.00%**				
Reduction in BMR Unit Sizes (1)	$40,644	$116,567	$131,082	$435,007
Reduction in BMR Unit Bathroom Count (2)	$16,137	$0	$61,645	$192,312
Reduction in BMR Interior Finish Quality (3)	$25,000	$46,000	$111,000	$218,000
Fee Deferral (5)	$7,576	$19,196	$50,397	$100,584
Total	$89,357	$181,763	$354,124	$945,903
Per Unit (All Units)	$8,936	$8,262	$7,082	$9,459

(1) Based on reduction in unit sizes of affordable units to the following minimum unit sizes: one-bedroom--700 SF; two-bedroom--900 SF; three-bedroom--1,100 SF.

(2) Assumes number of bathrooms may be reduced by one (from two baths to one bath) in two-bedroom/two-bath affordable units.

(3) Assumes $10.00 per square foot reduction in interior finish costs.

(4) Assumes deferral of development impact fee payment from start of construction to certificate of occupancy. Represents a deferral of 15 months for Owners #1 and #2 and 18 months for Owners #3 and #4.

Source: David Paul Rosen & Associates

Table 13
Total Cost Savings From Incentives, Including 25% or 50% Density Bonus
Rental Housing Prototypes
Long Beach Inclusionary Housing Analysis

			Renter 1 Townhomes	Renter 2 Type V Stacked Flats Apartments
Acres			0.880	0.714
Number of Units (Baseline)			22	50
Net Square Feet Living Area (Baseline)			22,250	49,200
Total Gross Square Feet (Baseline)			24,722	54,667
COST SAVINGS PER UNIT (ALL UNITS) FROM INCENTIVES EXCEPT DENSITY BONUS *				
	% Affordable Units			
Scenario 1	**10.00%**		$4,293	$3,536
Scenario 2	**10.00%**		$4,293	$3,536
Scenario 3	**15.00%**		$5,723	$4,600
COST SAVINGS PER UNIT (ALL UNITS) FROM 25% DENSITY BONUS			$17,240	$5,990
COST SAVINGS PER UNIT (ALL UNITS) FROM 50% DENSITY BONUS			$26,735	$9,599
POTENTIAL TOTAL COST SAVINGS PER UNIT (ALL UNITS)				
	% Affordable Units			
25% DENSITY BONUS				
Scenario 1	**10.00%**	**@ 45% AMI**	$21,533	$9,526
Scenario 2	**10.00%**	**@ 60% AMI**	$21,533	$9,526
Scenario 3	**15.00%**	**@ 60% AMI**	$22,963	$10,590
50% DENSITY BONUS				
Scenario 1	**10.00%**	**@ 45% AMI**	$31,028	$13,135
Scenario 2	**10.00%**	**@ 60% AMI**	$31,028	$13,135
Scenario 3	**15.00%**	**@ 60% AMI**	$32,458	$14,199

* Includes the following four incentives:
(1) Based on reduction in unit sizes of affordable units to the following minimum unit sizes: one-bedroom--700 SF; two-bedroom--900 SF; three-bedroom--1,100 SF.
(2) Assumes number of bathrooms may be reduced by one (from two baths to one bath) in two-bedroom/two-bath affordable units.
(3) Assumes $10.00 per square foot reduction in interior finish costs.
(4) Assumes deferral of development impact fee payment from start of construction to certificate of occupancy. Represents a deferral of 12 months for Renters #1 and #2.

Source: David Paul Rosen & Associates

Table 14
Total Cost Savings From Incentives, Including 25% or 50% Density Bonus
Owner Housing Prototypes
Long Beach Inclusionary Housing Analysis

		Owner 1 Small Lot S-F Detached	Owner 2 Townhomes	Owner 3 Type V Stacked Flat Condos	Owner 4 Type I High-Rise Condos
Acres		0.670	0.880	0.710	1.000
Number of Units (Baseline)		10	22	50	100
Net Square Feet Living Area		12,700	26,000	55,100	109,000
Total Gross Square Feet		12,700	28,889	61,222	128,235
COST SAVINGS PER UNIT (ALL UNITS) FROM INCENTIVES EXCEPT DENSITY BONUS*					
Scenario 1		$5,495	$4,613	$4,038	$5,232
Scenario 2		$5,495	$6,437	$4,971	$6,822
Scenario 3		$8,936	$8,262	$7,082	$9,459
COST SAVINGS PER UNIT (ALL UNITS) FROM 25% DENSITY BONUS		$52,577	$12,174	$35	($3,738)
COST SAVINGS PER UNIT (ALL UNITS) FROM 50% DENSITY BONUS		$66,227	$22,002	$6,681	($3,382)
POTENTIAL TOTAL COST SAVINGS PER UNIT (ALL UNITS)	**% Affordable Units @ 90% AMI**				
25% DENSITY BONUS					
Scenario 1	**10.00%**	$58,072	$16,786	$4,072	$1,495
Scenario 2	**15.00%**	$58,072	$18,611	$5,005	$3,084
Scenario 3	**20.00%**	$61,513	$20,436	$7,117	$5,721
50% DENSITY BONUS					
Scenario 1	**10.00%**	$71,722	$26,615	$10,718	$1,851
Scenario 2	**15.00%**	$71,722	$28,440	$11,651	$3,440
Scenario 3	**20.00%**	$75,163	$30,264	$13,763	$6,077

* Includes the following four incentives:

(1) Based on reduction in unit sizes of affordable units to the following minimum unit sizes: one-bedroom--700 SF; two-bedroom--900 SF; three-bedroom--1,100 SF.

(2) Assumes number of bathrooms may be reduced by one (from two baths to one bath) in two-bedroom/two-bath affordable units.

(3) Assumes $10.00 per square foot reduction in interior finish costs.

(4) Assumes deferral of development impact fee payment from start of construction to certificate of occupancy. Represents a deferral of 15 months for Owners #1 and #2 and 18 months for Owners #3 and #4.

Source: David Paul Rosen & Associates

Table 15
Comparison of Affordability Costs and Cost Savings From Incentives, Including Density Bonus
Renter Housing Prototypes
Long Beach Inclusionary Housing Analysis

		Renter 1 Townhomes	Renter 2 Type V Stacked Flats Apartments
Acres		0.880	0.714
Number of Units (Baseline)		22	50
Net Square Feet Living Area (Baseline)		22,250	49,200
Total Gross Square Feet (Baseline)		24,722	54,667
AFFORDABILITY COSTS PER UNIT (ALL UNITS)			
	% Affordable Units		
Scenario 1	**10.00% @ 45% AMI**	$16,171	$14,191
Scenario 2	**10.00% @ 60% AMI**	$14,344	$11,977
Scenario 3	**15.00% @ 60% AMI**	$20,905	$16,864
NET PROJECT COSTS (SAVINGS) PER UNIT (ALL UNITS)			
SCENARIO 1			
25% Density Bonus		($5,362)	$4,665
50% Density Bonus		($14,857)	$1,056
SCENARIO 2			
25% Density Bonus		($7,189)	$2,450
50% Density Bonus		($16,684)	($1,159)
SCENARIO 3			
25% Density Bonus		($2,058)	$6,274
50% Density Bonus		($11,553)	$2,665

Source: David Paul Rosen & Associates

Table 16
Comparison of Affordability Costs and Cost Savings From Incentives Including Density Bonus
Owner Housing Prototypes
Long Beach Inclusionary Housing Analysis

		Owner 1 Small Lot S-F Detached	Owner 2 Townhomes	Owner 3 Type V Stacked Flat Condos	Owner 4 Type I High-Rise Condos
Acres		0.670	0.880	0.710	1.000
Number of Units (Baseline)		10	22	50	100
Net Square Feet Living Area		12,700	26,000	55,100	109,000
Total Gross Square Feet		12,700	28,889	61,222	128,235
AFFORDABILITY COSTS PER UNIT (ALL UNITS)					
	% Affordable Units @ 90% AMI				
Scenario 1	**10.00%**	$9,543	$6,786	$4,283	$17,307
Scenario 2	**15.00%**	$9,543	$10,278	$6,035	$25,101
Scenario 3	**20.00%**	$20,254	$13,771	$8,620	$34,613
NET PROJECT COSTS (SAVINGS) PER UNIT (ALL UNITS)					
SCENARIO 1					
25% Density Bonus		($48,529)	($10,001)	$211	$15,812
50% Density Bonus		($62,179)	($19,830)	($6,435)	$15,456
SCENARIO 2					
25% Density Bonus		(48,529)	(8,332)	1,030	22,017
50% Density Bonus		(62,179)	(18,161)	(5,616)	21,661
SCENARIO 3					
25% Density Bonus		(41,259)	(6,664)	1,503	28,892
50% Density Bonus		(54,909)	(16,493)	(5,143)	28,536

Source: David Paul Rosen & Associates

G. Comparison of Affordability Costs and Cost-Savings from Alternative Compliance Measures

Alternative compliance measures offer developers the potential to reduce the cost of complying with inclusionary standards by meeting their affordable housing requirements through methods other than on-site construction of units comparable to market units. The offsite compliance alternatives examined in this analysis include the following:

- substitution of attached townhouse units in place of single-family detached units (applies to Owner Prototype #1 only);
- new construction of affordable units offsite;
- acquisition/rehabilitation of existing rental units and their preservation as affordable housing;
- credits for additional bedrooms

Detailed calculations for the alternative compliance measures are contained in **Appendix B: Economic Analysis of Offsets and Incentives.**

1. Alternative Product Type

Allowing the developer to provide a different product type for the affordable units creates the potential for cost savings through lower development costs. **Table 17** models the cost savings for the Owner #1 Prototype of providing attached townhomes instead of single-family detached units for the affordable units.

The analysis assumes the bedroom count distribution of the affordable units stays the same as the market rate units, but the unit sizes decrease to the Owner #2 Prototype unit sizes.

For smaller developments, developing affordable units of a different product type on-site is not practical or economical except through joint venture with other nonprofit or for-profit developers.

Table 17
Estimated Potential Cost Savings from Alternative Compliance:
Provision of Attached Townhome Units for Detached Units
Owner Housing Prototype #1
Long Beach Inclusionary Housing Analysis

		Owner 1
PROTOTYPE		Small Lot S-F Detached
Total Unit Count		10 Units
Affordable Units Required	**% Affordable Units @ 90% AMI**	
Scenario #1	**10.00%**	1
Two-Bedroom Units		0
Three-Bedroom Units		1
Scenario #2	**15.00%**	1
Two-Bedroom Units		0
Three-Bedroom Units		1
Scenario #3	**20.00%**	2
Two-Bedroom Units		1
Three-Bedroom Units		1
Total Development Cost Per Unit, Single-Family Detached (Owner Prototype #1)		
Two-Bedroom Unit		$264,831
Three-Bedroom Unit		$279,605
Total Development Cost Per Unit, Attached Townhome		
Two-Bedroom Unit		$234,558
Three-Bedroom Unit		$256,618
TOTAL COST SAVINGS FROM ALTERNATIVE PRODUCT TYPE		
Scenario 1		$22,987
Scenario 2		$22,987
Scenario 3		$53,260
PER UNIT COST SAVINGS (ALL UNITS)		
Scenario 1		$2,299
Scenario 2		$2,299
Scenario 3		$5,326

Source: David Paul Rosen & Associates.

2. Offsite New Construction

Allowing developers the opportunity to provide inclusionary units offsite allows the potential for benefiting from lower land costs on different sites and in different parts of the city. DRA modeled the estimated cost savings and net affordability costs from less expensive land assuming a 50 percent reduction in land cost at an off-site location, Based on this assumption, estimated cost savings from offsite new construction are shown in **Table 18** for the rental prototypes and **Table 19** for the owner prototypes. Estimated net affordability costs assuming offsite new construction of affordable units are shown in **Table 20** for the rental prototypes and **Table 21** for the owner prototypes.

Table 18
Estimated Potential Cost Savings from Offsite New Construction
Rental Housing Prototypes
Long Beach Inclusionary Housing Analysis

			Renter 1 Townhomes	Renter 2 Type V Stacked Flats Apartments
Number of Units (Baseline)			22	50
Total Gross Square Feet			24,722	54,667
Affordable Units Required				
Scenario #1	**10.00%**	**@ 45% AMI**	2	5
Scenario #2	**10.00%**	**@ 60% AMI**	2	5
Scenario #3	**15.00%**	**@ 60% AMI**	3	7
Original Total Development Cost Per Unit, Including Land			$156,070	$149,265
Original Land Acquisition and Carry Cost Per Unit			$44,213	$15,784
Off-Site Land Cost as a Percentage of Original Land Cost			50%	50%
Total Development Cost Per Unit, Off-Site Units, Including Land			$133,964	$141,373
TOTAL COST SAVINGS				
Scenario #1	*Total*		$44,213	$39,460
	Per Unit (All Units)		$2,010	$789
	Per Gr SF		$1.79	$0.72
Scenario #2	*Total*		$44,213	$39,460
	Per Unit (All Units)		$2,010	$789
	Per Gr SF		$1.79	$0.72
Scenario #3	*Total*		$66,320	$55,245
	Per Unit (All Units)		$3,015	$1,105
	Per Gr SF		$2.68	$1.01

Source: David Paul Rosen & Associates

Table 19
Estimated Potential Cost Savings from Offsite New Construction
Owner Housing Prototypes
Long Beach Inclusionary Housing Analysis

		Owner 1 Small Lot S-F Detached	Owner 2 Townhomes	Owner 3 Type V Stacked Flat Condos	Owner 4 Type I High-Rise Condos
Total Unit Count		10	22	50	100
Total Gross Bldg. SF		12,700	28,889	61,222	128,235
Affordable Units Required	**% Affordable Units**				
Scenario #1	**10.00%**	1	2	5	10
Scenario #2	**15.00%**	1	3	7	15
Scenario #3	**20.00%**	2	4	10	20
Original Total Dev. Cost Per Unit, Including Land		$273,248	$243,123	$201,283	$328,816
Original Land Acquisition and Carry Cost Per Unit		$92,298	$44,213	$15,742	$11,086
Off-Site Land Cost as a % of Original Land Cost		50%	50%	50%	50%
Total Dev. Cost Per Unit, Offsite Units, Include. Land		$227,099	$221,017	$193,412	$323,273
TOTAL COST SAVINGS FROM OFFSITE COMPLIANCE					
Scenario #1	*Total*	$46,149	$44,213	$39,355	$55,430
	Per Unit (All Units)	$4,615	$2,010	$787	$554
	Per Gr SF	$3.63	$1.53	$0.64	$0.43
Scenario #2	*Total*	$46,149	$66,320	$55,098	$83,145
	Per Unit (All Units)	$4,615	$3,015	$1,102	$831
	Per Gr SF	$3.63	$2.30	$0.90	$0.65
Scenario #3	*Total*	$92,298	$88,427	$78,711	$110,860
	Per Unit (All Units)	$9,230	$4,019	$1,574	$1,109
	Per Gr SF	$7.27	$3.06	$1.29	$0.86

Source: David Paul Rosen & Associates

Table 20
Comparison of Affordability Costs and Cost Savings From Offsite New Construction
Renter Housing Prototypes
Long Beach Inclusionary Housing Analysis

		Renter 1 Townhomes	Renter 2 Type V Stacked Flats Apartments
Acres		0.880	0.714
Number of Units		22	50
Net Square Feet Living Area		22,250	49,200
Total Gross Square Feet		24,722	54,667
PER UNIT COST SAVINGS FROM OFF-SITE COMPLIANCE (ALL UNITS)			
Scenario 1		$2,010	$789
Scenario 2		$2,010	$789
Scenario 3		$3,015	$1,105
AFFORDABILITY COSTS PER UNIT (ALL UNITS)	***% Affordable Units @ % Area Median Income***		
Scenario 1	**10.00% @ 45% AMI**	$16,171	$14,191
Scenario 2	**10.00% @ 60% AMI**	$14,344	$11,977
Scenario 3	**15.00% @ 60% AMI**	$20,905	$16,864
NET PROJECT COSTS PER UNIT (ALL UNITS)			
Scenario 1		$14,161	$13,402
Scenario 2		$12,335	$11,187
Scenario 3		$17,891	$15,759

Source: David Paul Rosen & Associates

Table 21
Comparison of Affordability Costs and Cost Savings From Offsite New Construction
Owner Housing Prototypes
Long Beach Inclusionary Housing Analysis

		Owner 1 Small Lot S-F Detached	Owner 2 Townhomes	Owner 3 Type V Stacked Flat Condos	Owner 4 Type I High-Rise Condos
Acres		0.838	0.880	0.710	1.000
Number of Units (Baseline)		10	22	50	100
Net Square Feet Living Area		12,700	26,000	55,100	109,000
Total Gross Square Feet		12,700	28,889	61,222	128,235
PER UNIT COST SAVINGS FROM OFF-SITE COMPLIANCE (ALL UNITS)					
Scenario #1		$4,615	$2,010	$787	$554
Scenario #1		$4,615	$3,015	$1,102	$831
Scenario #1		$9,230	$4,019	$1,574	$1,109
AFFORDABILITY COSTS PER UNIT (ALL UNITS)	***% Affordable Units @ 90% AMI***				
Scenario 1	**10.00%**	$9,543	$6,786	$4,283	$17,307
Scenario 2	**15.00%**	$9,543	$10,278	$6,035	$25,101
Scenario 3	**20.00%**	$20,254	$13,771	$8,620	$34,613
NET PROJECT COSTS PER UNIT (ALL UNITS)					
Scenario 1	**10.00%**	$4,928	$4,776	$3,496	$16,752
Scenario 2	**15.00%**	$4,928	$7,264	$4,933	$24,270
Scenario 3	**20.00%**	$11,024	$9,752	$7,045	$33,504

Source: David Paul Rosen & Associates

3. Offsite Multifamily Acquisition/Rehabilitation

The City of Long Beach contains a large stock of existing rental units and many older units are in need of substantial rehabilitation due to long-term deferred maintenance. DRA modeled the cost savings of allowing developers to acquire and rehabilitate existing rental units and preserve them as affordable housing to meet inclusionary requirements.

Acquisition costs are based on analysis of 30 sales of multifamily rental properties with five or more units in the City of Long Beach between October 1, 2002 and February 15, 2003. The properties represent a total of 294 units, with an average of ten units per property. The multifamily property sales data are contained in **Appendix B.**

Using the median acquisition cost per unit of approximately $63,000, DRA developed estimates of total acquisition/rehabilitation costs per unit, including potential relocation costs. These estimates are shown in **Table 22**.

Table 22
Per Unit Acquisition and Rehabilitation Cost Assumptions
Existing Multifamily Rental Properties
2003

Acquisition Cost	Rehabilitation Cost	Relocation Cost	Total Cost
$63,000	$40,000	$10,000	$113,000

Source: Appendix B; Dataquick Information Systems; David Paul Rosen & Associates

The unit bedroom count distribution is not available for the sales data. However, the total number of bedrooms per property is provided allowing calculation of the average bedrooms per unit. Five percent (5%) of the units represented in the sales data are in properties with an average bedroom count of less than 1.0, indicating they contain some efficiency units. Forty-eight percent (48%) of units are in properties with an average of 1.0 to 1.49 bedrooms per unit, suggesting they contain less than 50 percent two-bedroom units. Forty-four percent (44%) of units are in properties with an average of 1.50 to 2.0 bedrooms per unit, indicating they have more than 50 percent two-bedroom units. The remaining 3 percent (3%) of the units represented in the sample had an average of 2.1 bedrooms per unit, suggesting they had some three-bedroom units.

For the acquisition/rehabilitation analysis, rehabilitation costs are estimated at $30,000 per unit based on typical costs for substantial rehabilitation in the southland. These costs assume substantial rehabilitation, including replacement of one to three major systems and an extension of the building's useful life for 20 to 30 years.

The land sales comparables do not distinguish property condition and the properties represented in the sample no doubt vary in terms of deferred maintenance. One would expect that the physical condition of the higher-priced units would be better than average. Therefore, using median purchase costs plus substantial rehabilitation costs may overestimate the cost of acquisition/rehabilitation.

Average per unit acquisition and rehabilitation costs were subtracted from average per unit new construction costs to estimate cost savings. Since existing rental units are overwhelmingly one- and two-bedroom units, the acquired units would not match the bedroom count of the market-rate units.

Estimated cost savings from compliance through acquisition/rehabilitation are shown in **Table 23** for the rental prototypes and **Table 24** for the owner prototypes. Estimated net affordability costs assuming offsite new construction of affordable units are shown in **Table 25** for the rental prototypes and **Table 26** for the owner prototypes.

4. Credits for Additional Bedrooms

Another potential alternative compliance measure would allow developers additional credits for units with higher bedroom count than market-rate units. Under the prior analysis, the bedroom count distribution of affordable housing units is assumed to match the bedroom count distribution of the market-rate units. One alternative would be to allow developers to match the required number of bedrooms with fewer units. For example, where the inclusionary requirement is for six two-bedroom units, for a total of 12 bedrooms, alternative compliance might allow the developer to provide four three-bedroom units or three four-bedroom units, both of which also total 12 bedrooms. The estimated cost savings from this example are shown in **Table 27** and **Table 28** for the renter and owner prototypes, respectively.

Table 23
Cost Savings From Compliance through Offsite Multifamily Acquisition/Rehabilitation
Rental Housing Prototypes
Long Beach Inclusionary Housing Analysis

			Renter 1 Townhomes	Renter 2 Type V Stacked Flats Apartments
Number of Units (Baseline)			22	50
Total Gross Square Feet			24,722	54,667
Affordable Units Required				
Scenario #1	**10.00%**	**@ 45% AMI**	2	5
Scenario #2	**10.00%**	**@ 60% AMI**	2	5
Scenario #3	**15.00%**	**@ 60% AMI**	3	7
Total Development Cost Per Unit			$200,284	$165,049
Multifamily Unit Acquisition Cost Per Unit			$63,000	$63,000
Ave. Multifamily Rehabilitation Costs Per Unit			$40,000	$40,000
Ave. Relocation Costs Per Unit			$10,000	$10,000
Total Acq./Rehab. Cost Per MF Unit			$113,000	$113,000
TOTAL COST SAVINGS				
Scenario #1	*Total*		$174,568	$260,247
	Per Unit (All Units)		$7,935	$5,205
	Per Gr SF		$7.06	$4.76
Scenario #2	*Total*		$174,568	$260,247
	Per Unit (All Units)		$7,935	$5,205
	Per Gr SF		$7.06	$4.76
Scenario #3	*Total*		$261,852	$364,346
	Per Unit (All Units)		$11,902	$7,287
	Per Gr SF		$10.59	$6.66

Source: David Paul Rosen & Associates

Table 24
Cost Savings From Compliance through Offsite Rental Multifamily Acquisition/Rehabilitation
Owner Housing Prototypes
Long Beach Inclusionary Housing Analysis

		Owner 1 Small Lot S-F Detached	Owner 2 Townhomes	Owner 3 Type V Stacked Flat Condos	Owner 4 Type I High-Rise Condos
Total Unit Count		10	22	50	100
Total Gross Bldg. SF		12,700	28,889	61,222	128,235
Affordable Units Required					
Scenario #1		1	2	5	10
Scenario #2		1	3	7	15
Scenario #3		2	4	10	20
Total Development Cost Per Unit		$273,248	$243,123	$201,283	$328,816
Ave. Multifamily Unit Acquisition Cost Per Unit		$63,000	$63,000	$63,000	$63,000
Ave. Multifamily Rehabilitation Costs Per Unit		$40,000	$40,000	$40,000	$40,000
Ave. Relocation Cost Per Unit		$10,000	$10,000	$10,000	$10,000
Total Acq./Rehab. Cost Per MF Unit		$113,000	$113,000	$113,000	$113,000
TOTAL COST SAVINGS FROM OFFSITE COMPLIANCE					
Scenario #1	*Total*	$160,248	$260,247	$441,415	$2,158,158
	Per Unit (All Units)	$16,025	$11,829	$8,828	$21,582
	Per Gr SF	$12.62	$9.01	$7.21	$16.83
Scenario #2	*Total*	$160,248	$390,370	$617,981	$3,237,237
	Per Unit (All Units)	$16,025	$17,744	$12,360	$32,372
	Per Gr SF	$12.62	$13.51	$10.09	$25.24
Scenario #3	*Total*	$320,495	$520,494	$882,830	$4,316,315
	Per Unit (All Units)	$32,050	$23,659	$17,657	$43,163
	Per Gr SF	$25.24	$18.02	$14.42	$33.66

Source: David Paul Rosen & Associates

Table 25
Comparison of Affordability Costs and Cost Savings From Compliance through Offsite Multifamily Acquisition/Rehabilitation
Renter Housing Prototypes
Long Beach Inclusionary Housing Analysis

			Renter 1 Townhomes	Renter 2 Flats Apartments
Acres			0.880	0.714
Number of Units			22	50
Net Square Feet Living Area			22,250	49,200
Total Gross Square Feet			24,722	54,667
PER UNIT COST SAVINGS FROM ACQUISITION/REHABILITATION (ALL UNITS)				
Scenario 1			$7,935	$5,205
Scenario 2			$7,935	$5,205
Scenario 3			$11,902	$7,287
AFFORDABILITY COSTS PER UNIT (ALL UNITS)				
	% Affordable Units			
Scenario 1	**10.00%**	**@ 45% AMI**	$16,171	$14,191
Scenario 2	**10.00%**	**@ 60% AMI**	$14,344	$11,977
Scenario 3	**15.00%**	**@ 60% AMI**	$20,905	$16,864
NET PROJECT COSTS PER UNIT (ALL UNITS)				
Scenario 1			$8,236	$8,986
Scenario 2			$6,409	$6,772
Scenario 3			$9,003	$9,577

Source: David Paul Rosen & Associates

Table 26
Comparison of Affordability Costs and Cost Savings From Offsite Rental Multifamily Acquisition/Rehabilitation
Owner Housing Prototypes
Long Beach Inclusionary Housing Analysis

		Owner 1 Small Lot S-F Detached	Owner 2 Townhomes	Owner 3 Type V Stacked Flat Condos	Owner 4 Type I High-Rise Condos
Acres		0.838	0.880	0.710	1.000
Number of Units (Baseline)		10	22	50	100
Net Square Feet Living Area		12,700	26,000	55,100	109,000
Total Gross Square Feet		12,700	28,889	61,222	128,235
PER UNIT COST SAVINGS FROM OFF-SITE COMPLIANCE (ALL UNITS)					
Scenario 1		$16,025	$11,829	$8,828	$21,582
Scenario 2		$16,025	$17,744	$12,360	$32,372
Scenario 3		$32,050	$23,659	$17,657	$43,163
AFFORDABILITY COSTS PER UNIT (ALL UNITS)	***% Affordable Units @ 90% AMI***				
Scenario 1	**10.00%**	$9,543	$6,786	$4,283	$17,307
Scenario 2	**15.00%**	$9,543	$10,278	$6,035	$25,101
Scenario 3	**20.00%**	$20,254	$13,771	$8,620	$34,613
NET PROJECT COSTS (BENEFITS) PER UNIT (ALL UNITS)					
Scenario 1		($6,482)	($5,044)	($4,545)	($4,275)
Scenario 2		($6,482)	($7,466)	($6,325)	($7,271)
Scenario 3		($11,795)	($9,887)	($9,037)	($8,550)

Source: David Paul Rosen & Associates

Table 27
Estimated Potential Cost Savings from Alternative Compliance:
Provision of Fewer Units With Same Bedroom Count
Rental Housing Prototypes
Long Beach Inclusionary Housing Analysis

			Renter 1 Townhomes	Renter 2 Type V Stacked Flats Apartments
Number of Units (Baseline)			22	50
Total Gross Square Feet			24,722	54,667
Total Development Cost Per Unit				
Two Bedroom/One Bath Unit			$186,651	$161,154
Three Bedroom Unit			$215,414	$177,844
	Total Units	**Total Bedrooms**		
Total Cost for Two-Bedroom Units	3.00	6.00	$559,953	$483,462
Total Cost for Three-Bedroom Units	2.00	6.00	$430,828	$355,688
TOTAL COST SAVINGS			$129,125	$127,774

Source: David Paul Rosen & Associates

Table 28
Illustrated Cost Savings from Additional Bedroom Credit:
Replacing Three Two-Bedroom Affordable Units with Two Three-Bedroom Units
Owner Housing Prototypes
Long Beach Inclusionary Housing Analysis

			Owner 1 Small Lot S-F Detached	Owner 2 Townhomes	Owner 3 Type V Stacked Flat Condos	Owner 4 Type I High-Rise Condos
Total Unit Count			10	22	50	100
Total Gross Bldg. SF			12,700	28,889	61,222	128,235
Total Development Cost Per Unit						
Two Bedroom Unit			$264,831	$234,558	$201,515	$331,525
Three Bedroom Unit			$279,605	$256,618	$238,307	$399,058
	Total Units	**Total Bedrooms**				
Total Cost for Two-Bedroom Units	3.00	6.00	$794,494	$703,674	$604,545	$994,574
Total Cost for Three-Bedroom Units	2.00	6.00	$559,210	$513,236	$476,614	$798,117
TOTAL COST SAVINGS			$235,285	$190,438	$201,515	$331,525
COST SAVINGS PER UNIT (ALL UNITS)			$23,528	$8,656	$4,030	$3,315

Source: David Paul Rosen & Associates

H. Economic Impact of Alternative Inclusionary Standards

The section assesses the potential economic impact of alternative inclusionary requirements on residential development in the City of Long Beach. Detailed assumptions and calculations for the economic impact analysis are contained in **Appendix D**.

1. Land Residual Analysis Methodology

A land residual analysis methodology calculates the value attributed to land from proposed development on that site. It is commonly used by real estate developers and investors to evaluate development financial feasibility and select among alternative uses for a piece of property.

The land residual methodology calculates the value of a development based on its income potential and subtracts the costs of development and developer profit to yield the underlying value of the land. When evaluating alternative land uses, the alternative that generates the highest value to a site is considered its highest and best use. An alternative that generates a value to the land that is negative is not financially feasible.

For the rental prototypes, DRA calculated net operating income from each prototype based on estimated market and affordable rents. Net operating income is capitalized at an assumed capitalization rate of 8.0 percent (based on recent property sales comps) to determine the value of the developed property. The capitalization rate is the ratio of net operating income to project fair market value, or sales price, exhibited in the market and reflects the rate of return required by investors in rental property. Total development costs are then subtracted from the capitalized value to yield the estimated residual land value.

For the owner prototypes, DRA estimated gross sales revenues and subtracted total development costs (which include selling costs, sales commissions, developer overhead and profit), to derive the residual value to the land. Estimated sales prices were developed through interviews with Long Beach area developers and a review of available sales data for single-family and condominium units receiving building permits in the City of Long Beach in 2000.

DRA applied a land residual analysis to each of the six renter and owner prototypes using assumed market rents and sales prices for the units. The residual land value was calculated assuming all market-rate units to determine the basic financial feasibility of the prototype given the economic assumptions employed. The land residual analysis was then calculated for each of the three inclusionary alternatives to evaluate the effect of these requirements on land values.

2. Assumptions

a. Rents and Operating Costs

Rent assumptions were developed from data provided by REALFACTS on 25 rental properties in the City of Long Beach comprising 4,579 rental units The rents therefore represent those in larger properties. This data is summarized in **Table 29** below.

Table 29
City of Long Beach Market Rent Data
December, 2002

Bedrooms/ Baths	Units	% Mix	Total SF	Average SF	Average Rent	Average Rent/SF
0 BR/ 1 BA	753	16.4%	343,690	456	$786	$1.72
1 BR/ 1 BA	2,042	44.7%	1,343,374	658	$1,036	$1.58
2 BR/ 1 BA	578	12.6%	542,789	939	$1,264	$1.35
2 BR/ 2 BA	939	20.5%	929,625	990	$1,491	$1.54
2 TH	217	4.7%	219,814	1,013	$1,286	$1.27
3 BR/ 2 BA	50	1.1%	64,376	1,288	$1,639	$1.27
Totals	4,579	100.0%	3,443,668	752	$1,128	$1.52

Source: REALFACTS; David Paul Rosen & Associates.

REALFACTS updates data quarterly on projects with 100 or more units. The REALFACTS data is weighted toward larger properties with an average of 183 units per project. The smallest property in the database is 102 units (Renaissance Terrace) and the largest is 385 units (Hathaway). The average occupancy rate as of December, 2002 was 95.3 percent.

As in the gap analysis, annual operating cost assumptions for the rental prototypes are based on IREM operating cost data for the Los Angeles area (exclusive of property taxes). Annual property taxes were assumed at 1.20 percent of total development value, and annual replacement reserves/capital improvement costs are estimated at $250 per unit.

b. Home Sales Prices

Home sales prices for the prototypes were estimated based a review of sales price comparables and trends in home prices. Data were obtained through Dataquick Information Systems on sales for single-family homes built in 1999 or later and condominiums built in 1995 and later.

Table 30
Estimated Market Home Sales Prices
Owner Housing Prototypes
City of Long Beach Inclusionary Housing Study
2003

Bedroom/Bath Count	Owner #1	Owner #2	Owner #3	Owner #4
Lofts	N/A	N/A	N/A	$300,000
1 BR	N/A	N/A	$180,000	$300,000
2 BR/1 BA	N/A	$250,000	$225,000	$325,000
2 BR/2 BA	$250,000	N/A	$248,000	$350,000
3 BR	$300,000	$300,000	$315,000	$400,000

Source: Dataquick Information Systems; David Paul Rosen & Associates

3. Findings

DRA calculated residual land values for the rental and owner housing prototypes assuming alternative "packages" of inclusionary requirements and offsets/incentives. For both the renter and owner analyses, the "packages" analyzed are as follows:

Package 1: No offsets;
Package 2: 25% density bonus, fee deferrals and affordable unit modifications;
Package 3: 50% density bonus; fee deferrals and affordable unit modifications;
Package 4: Off-site compliance, fee deferrals and affordable unit modifications;
Package 5: Multifamily acquisition/rehabilitation compliance and fee deferrals.

The residual land values generated by the prototypes with these "packages" are compared to the residual land values for the prototype assuming all market-rate units.

The findings of the land residual analysis are summarized in **Table 31** for the renter prototypes, assuming 10 percent of units are affordable at 45 percent of area median income, adjusted for household size. Owner prototypes are summarized in **Table 32,** which assumes 10 percent of units are affordable at 90 percent of area median income, respectively, adjusted for household size.

Table 31
Residual Land Value Per Square Foot Site Area
Rental Housing Prototypes with Alternative Inclusionary Housing "Packages"
Inclusionary Scenario 1: 10% of Units Affordable at 45% of Area Median Income
Long Beach Inclusionary Housing Analysis

Prototype	Renter 1 Townhomes	Renter 2 Type V Stacked Flats Apartments
Total "Baseline" Units	22	50
INCLUSIONARY "PACKAGE"		
Market:		
100% Market-Rate Units	$18.23	$55.04
Package 1:		
10% of Units at 45% AMI	$10.91	$31.48
Package 2:		
10% of Units at 45% AMI; fee deferrals; affordable unit modifications	$13.37	$33.86
Package 3:		
10% of units at 45% AMI; 25% density bonus; fee deferrals; affordable unit modifications	$20.12	$51.60
Package 4:		
10% of units at 45% AMI; 50% density bonus; fee deferrals; affordable unit modifications	$28.30	$59.66
Package 5:		
10% of units at 45%; off-site compliance; fee deferrals; affordable unit modifications	$14.93	$44.09
Package 6:		
10% of units at 45% AMI; mulitfamily acquisition/rehabilitation compliance; fee deferrals	$13.97	$42.88

Source: David Paul Rosen & Associates

Table 32
Residual Land Value Per Square Foot Site Area
Owner Housing Prototypes with Alternative Inclusionary Housing "Packages"
Inclusionary Scenario 1: 10% of Units Affordable at 90% of Area Median Income
Long Beach Inclusionary Housing Analysis

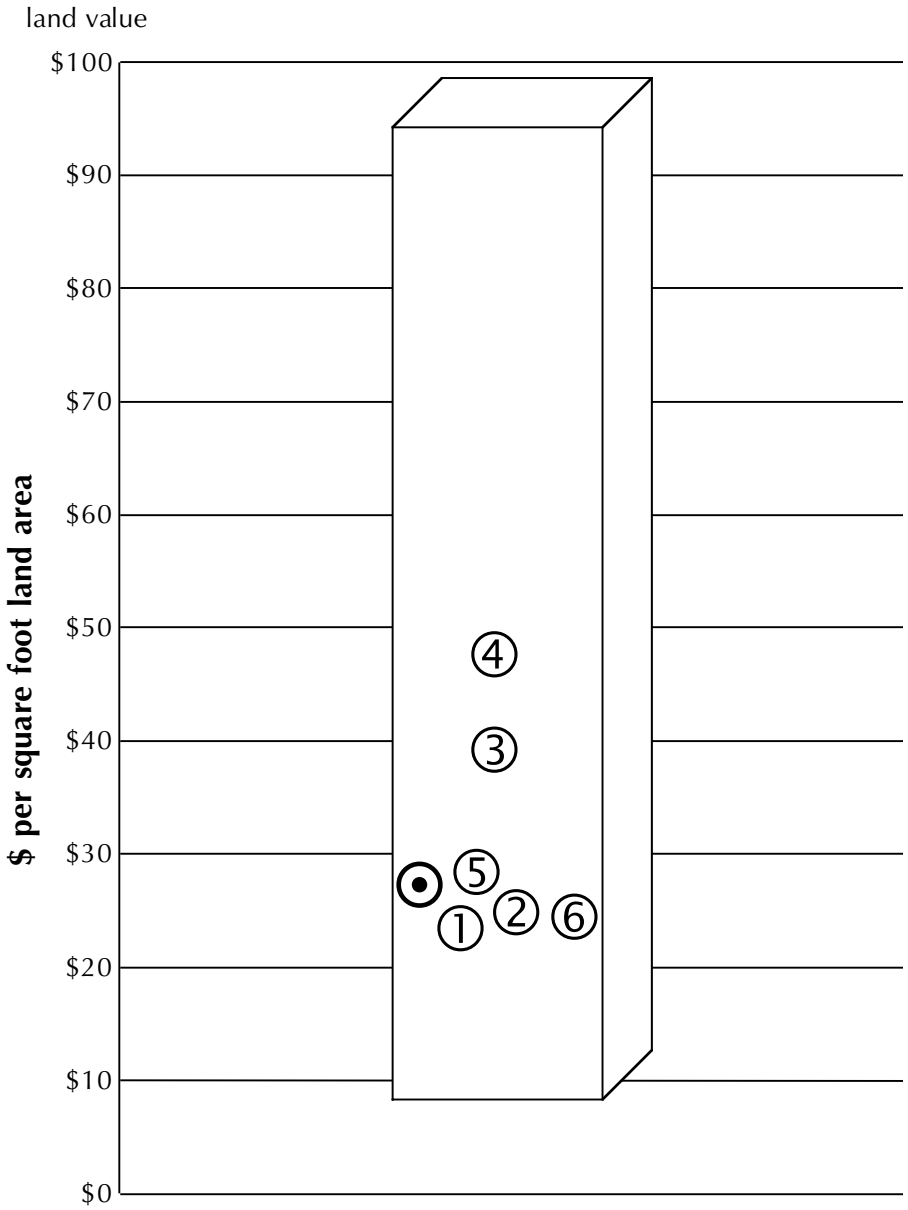
	Owner 1	Owner 2	Owner 3	Owner 4
Prototype:	Small Lot S-F Detached	Townhomes	Type V Stacked Flat Condos	Type I High-Rise Condos
Total Units (1):	10	22	50	100
Market:				
100% Market-Rate Units	$27.15	$41.06	$101.30	$68.34
Package 1:				
10% of Units at 90% AMI	$23.47	$34.74	$84.70	$20.83
Package 2:				
10% of units at 90% AMI; fee deferral, affordable unit modifications	$24.98	$37.39	$91.23	$32.84
Package 3:				
10% of units at 90% AMI; 25% density bonus; fee deferral, affordable unit modifications	$40.91	$49.14	$110.53	$22.66
Package 4:				
10% of units at 90% AMI; 50% density bonus; fee deferral, affordable unit modifications	$47.84	$62.66	$141.87	$30.58
Package 5:				
10% of units at 90% AMI; off-site compliance; fee deferral, affordable unit modifications	$27.16	$41.32	$95.96	$65.02
Package 6:				
10% of units at 45% AMI with off-site multifamily acquisition/rehabilitation compliance; fee deferral, affordable unit modifications	$24.83	$36.44	$86.26	$46.98

(1) Off-site inclusionary units in Packages #4 and #5 are in addition to the total on-site units shown.
Source: Interviews with Los Angeles area developers; Dataquick Information Service;

Long Beach Inclusionary Housing Economic Impact Analysis
Land Residual Values Based on Alternative Incentive/Compliance Options

Chart 1

Owner Prototype 1: Small Lot Single-Family Detached



KEY: Incentive/ Compliance Options *

① No offsets

② Fee deferrals; affordable unit modifications

③ 25% density bonus; fee deferrals; affordable unit modifications

④ 50% density bonus; fee deferrals; affordable unit modifications

⑤ Off-site compliance; fee deferrals; affordable unit modifications

⑥ Multifamily acquisition/ rehabilitation compliance; fee deferrals ; affordable unit modifications

⊙ 100% Market-Rate Units

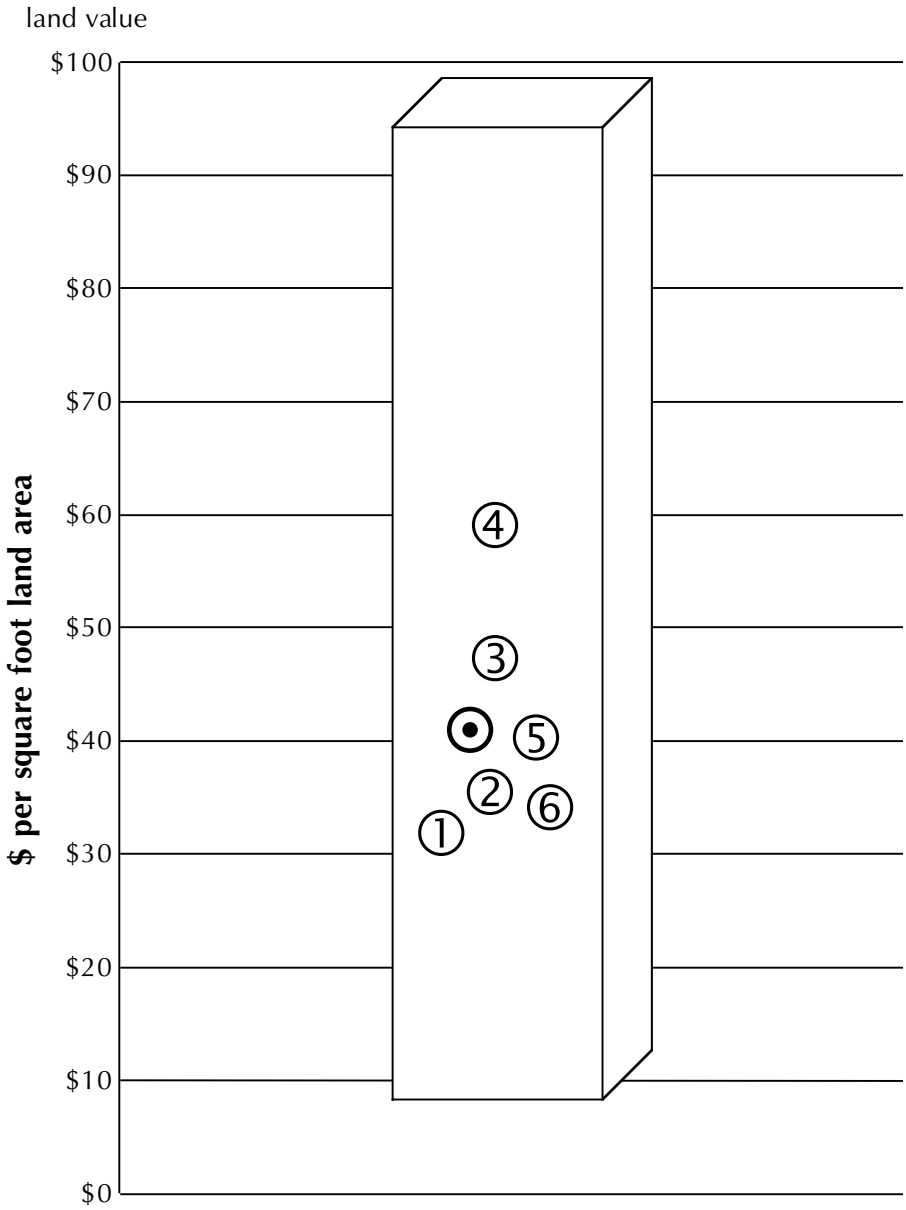
The bar represents actual recent residential and planned development land sales comparables and appraised values in Long Beach between 1998 and 2003 ranging between $13 to $99 per square foot. When the bulls-eye and numbered dots fall within the bar areas, the residual land values generated by the prototype and "package" option are within the range of recent land sales comparables in Long Beach, and should generally be reviewed as financially feasible.

* All options require 15% of total units to be affordable to households at 90% (45% for package 6) of the area median income; approximately $50,000 for a household of four in Long Beach, 2003.

Long Beach Inclusionary Housing Economic Impact Analysis
Land Residual Values Based on Alternative Incentive/Compliance Options

Chart 2

Owner Prototype 2: Townhomes



KEY: Incentive/ Compliance Options *

① No offsets

② Fee deferrals; affordable unit modifications

③ 25% density bonus; fee deferrals; affordable unit modifications

④ 50% density bonus; fee deferrals; affordable unit modifications

⑤ Off-site compliance; fee deferrals; affordable unit modifications

⑥ Multifamily acquisition/ rehabilitation compliance; fee deferrals ; affordable unit modifications

⊙ 100% Market-Rate Units

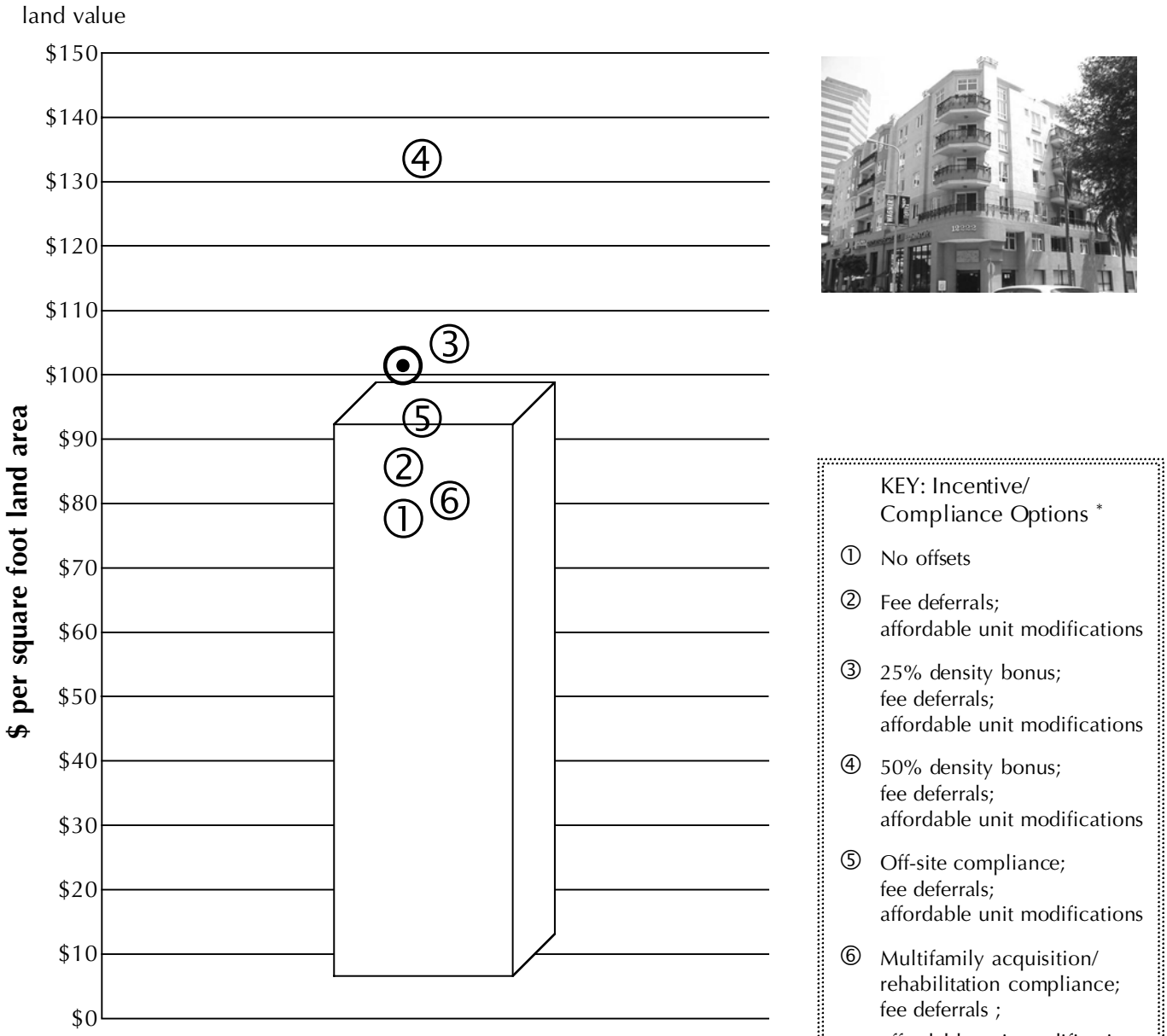
The bar represents actual recent residential and planned development land sales comparables and appraised values in Long Beach between 1998 and 2003 ranging between $13 to $99 per square foot. When the bulls-eye and numbered dots fall within the bar areas, the residual land values generated by the prototype and "package" option are within the range of recent land sales comparables in Long Beach, and should generally be reviewed as financially feasible.

* All options require 15% of total units to be affordable to households at 90% (45% for package 6) of the area median income; approximately $50,000 for a household of four in Long Beach, 2003.

Long Beach Inclusionary Housing Economic Impact Analysis
Land Residual Values Based on Alternative Incentive/Compliance Options

Chart 3

Owner Prototype 3:
Type V Stacked Flat Condos



KEY: Incentive/ Compliance Options *

① No offsets

② Fee deferrals; affordable unit modifications

③ 25% density bonus; fee deferrals; affordable unit modifications

④ 50% density bonus; fee deferrals; affordable unit modifications

⑤ Off-site compliance; fee deferrals; affordable unit modifications

⑥ Multifamily acquisition/ rehabilitation compliance; fee deferrals ; affordable unit modifications

⊙ 100% Market-Rate Units

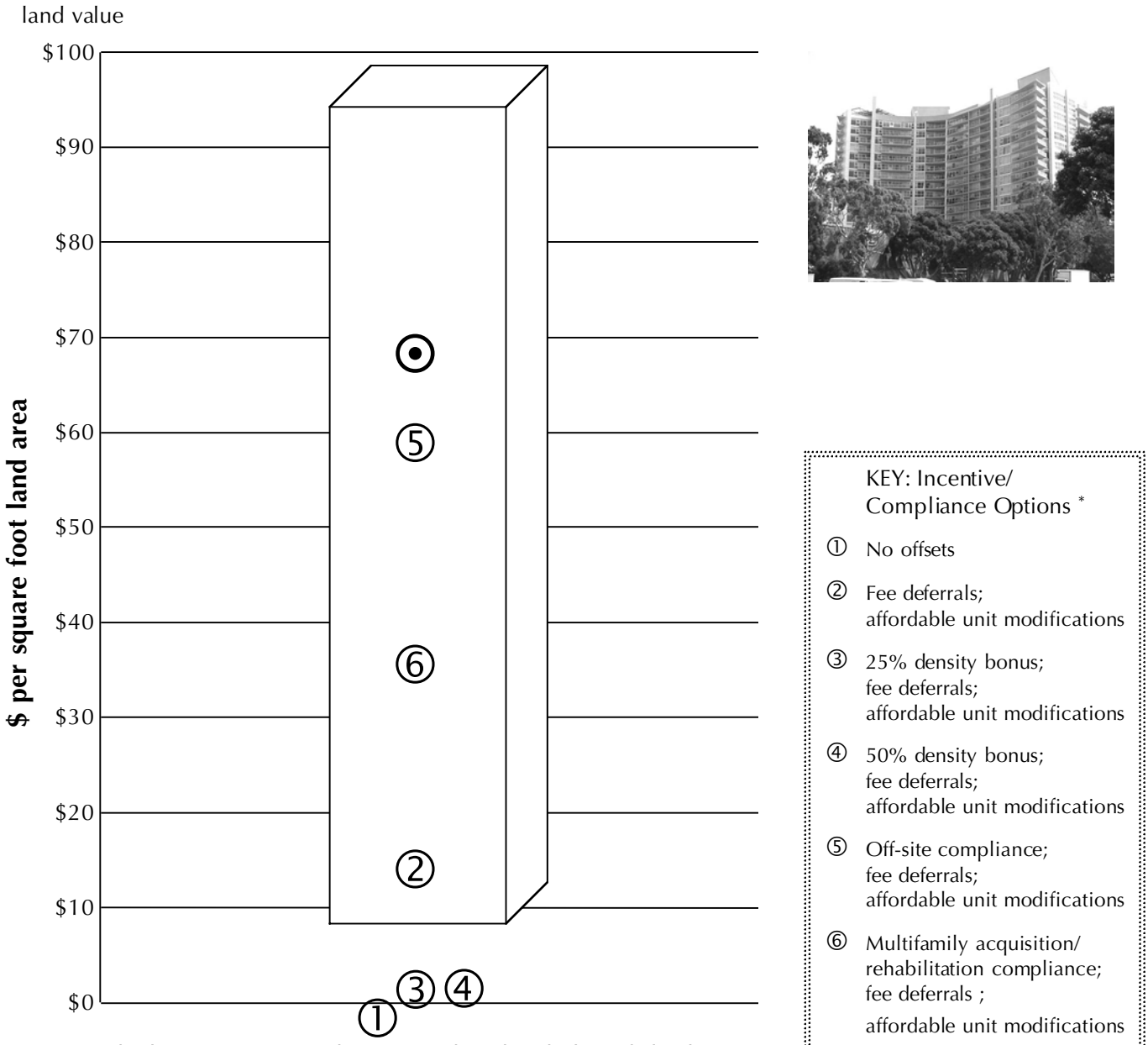
The bar represents actual recent residential and planned development land sales comparables and appraised values in Long Beach between 1998 and 2003 ranging between $13 to $99 per square foot. When the bulls-eye and numbered dots fall within the bar areas, the residual land values generated by the prototype and "package" option are within the range of recent land sales comparables in Long Beach, and should generally be reviewed as financially feasible.

* All options require 15% of total units to be affordable to households at 90% (45% for package 6) of the area median income; approximately $50,000 for a household of four in Long Beach, 2003.

Long Beach Inclusionary Housing Economic Impact Analysis
Land Residual Values Based on Alternative Incentive/Compliance Options

Chart 4

Owner Prototype 4:
Type I High-Rise Condos



KEY: Incentive/ Compliance Options *

① No offsets

② Fee deferrals; affordable unit modifications

③ 25% density bonus; fee deferrals; affordable unit modifications

④ 50% density bonus; fee deferrals; affordable unit modifications

⑤ Off-site compliance; fee deferrals; affordable unit modifications

⑥ Multifamily acquisition/ rehabilitation compliance; fee deferrals ; affordable unit modifications

⊙ 100% Market-Rate Units

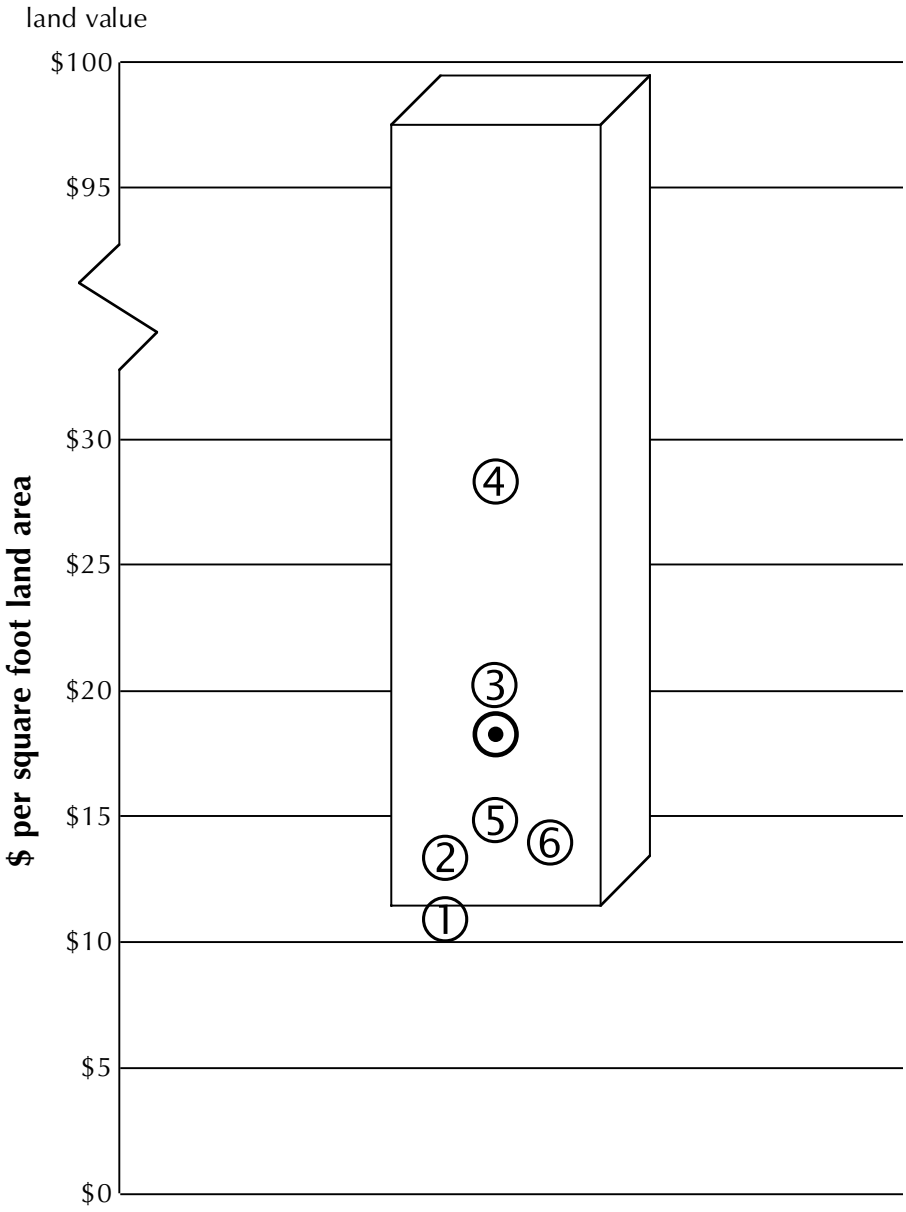
The bar represents actual recent residential and planned development land sales comparables and appraised values in Long Beach between 1998 and 2003 ranging between $13 to $99 per square foot. When the bulls-eye and numbered dots fall within the bar areas, the residual land values generated by the prototype and "package" option are within the range of recent land sales comparables in Long Beach, and should generally be reviewed as financially feasible.

* All options require 15% of total units to be affordable to households at 90% (45% for package 6) of the area median income; approximately $50,000 for a household of four in Long Beach, 2003.

Long Beach Inclusionary Housing Economic Impact Analysis
Land Residual Values Based on Alternative Incentive/Compliance Options

Chart 5

Renter Prototype 1: Townhomes



KEY: Incentive/ Compliance Options *

① No offsets

② Fee deferrals; affordable unit modifications

③ 25% density bonus; fee deferrals; affordable unit modifications

④ 50% density bonus; fee deferrals; affordable unit modifications

⑤ Off-site compliance; fee deferrals; affordable unit modifications

⑥ Multifamily acquisition/ rehabilitation compliance; fee deferrals ; affordable unit modifications

⊙ 100% Market-Rate Units

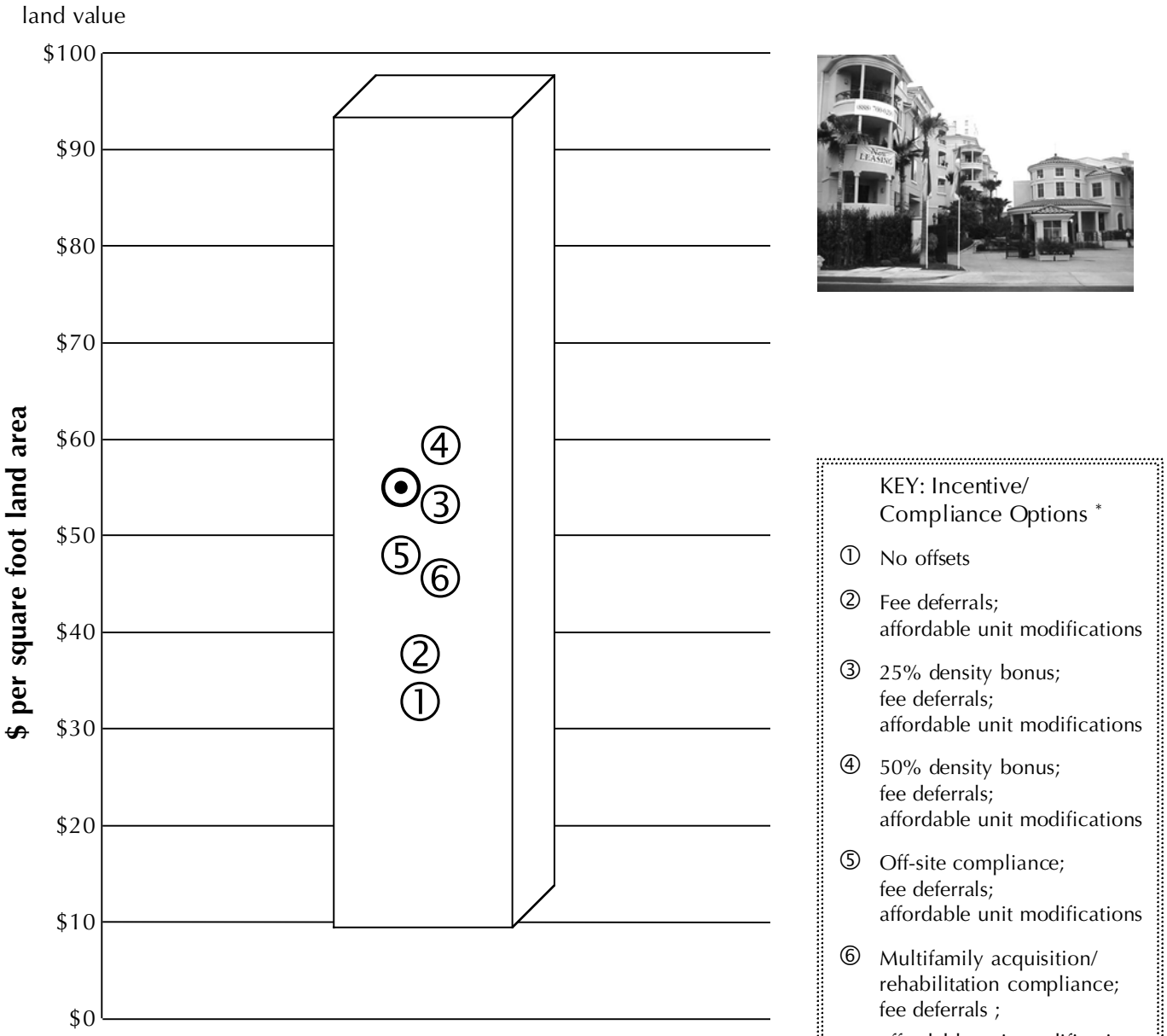
The bar represents actual recent residential and planned development land sales comparables and appraised values in Long Beach between 1998 and 2003 ranging between $13 to $99 per square foot. When the bulls-eye and numbered dots fall within the bar areas, the residual land values generated by the prototype and "package" option are within the range of recent land sales comparables in Long Beach, and should generally be reviewed as financially feasible.

* All options require 10% of total units to be affordable to households at 45% of the area median income; approximately $25,000 for a household of four in Long Beach, 2003.

Long Beach Inclusionary Housing Economic Impact Analysis
Land Residual Values Based on Alternative Incentive/Compliance Options

Chart 6

Renter Prototype 2:
Type V Stacked Flat Apartments



KEY: Incentive/ Compliance Options *

① No offsets

② Fee deferrals; affordable unit modifications

③ 25% density bonus; fee deferrals; affordable unit modifications

④ 50% density bonus; fee deferrals; affordable unit modifications

⑤ Off-site compliance; fee deferrals; affordable unit modifications

⑥ Multifamily acquisition/ rehabilitation compliance; fee deferrals ; affordable unit modifications

◉ 100% Market-Rate Units

The bar represents actual recent residential and planned development land sales comparables and appraised values in Long Beach between 1998 and 2003 ranging between $13 to $99 per square foot. When the bulls-eye and numbered dots fall within the bar areas, the residual land values generated by the prototype and "package" option are within the range of recent land sales comparables in Long Beach, and should generally be reviewed as financially feasible.

* All options require 10% of total units to be affordable to households at 45% of the area median income; approximately $25,000 for a household of four in Long Beach, 2003.

CITY OF LONG BEACH
INCLUSIONARY HOUSING STUDY

APPENDICES

Prepared for:

City of Long Beach
Department of Community Development
Housing Services Bureau
110 Pine Avenue
Suite 1200
Long Beach, CA 90802

Prepared by:

David Paul Rosen & Associates

1330 Broadway, Suite 937
Oakland, CA 94612-2509
510.451.2552
draoakland@sbcglobal.net

3941 Hendrix Street
Irvine, CA 92614-6637
949.559.5650
nlakebrown@cox.net

March 21, 2003

List of Appendices

City of Long Beach
Inclusionary Housing Study

Appendix A:	Costs of Alternative Affordability Requirements
Appendix B:	Estimated Value of Offsets and Incentives
Appendix C:	Feasibility Assessment of Housing Prototypes with Density Bonus
Appendix D:	Economic Impact Assessment